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UNIVERSITY OF ALBERTA

# The Relationship Between Job-Related Stress and Irrational Beliefs Among Alberta Pharmacists

by

Lisa R. Najdziak

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

Master of Education

in

Counselling Psychology

Department of Educational Psychology

Edmonton, Alberta

Spring, 1990

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ISBN 0-315-60140-X

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## ABSTRACT

This study examined occupational stress in pharmacists using a Rational Emotive framework. The purposes of the study were to: i.) gather descriptive data regarding the stress experienced by Alberta pharmacists; and ii.) measure the relationship between the amount of stress perceived by pharmacists and the degree to which irrational beliefs are endorsed. Approximately 2148 pharmacists were sent questionnaires concerning the stress experienced at work, their anxiety levels, and their belief systems. The instruments used included parts A and B of the Pharmacy Occupational Stress Scale (POSS-A and POSS-B), the State Trait Anxiety Inventory (STAI), and the Adult Ideas Inventory (AII). The results suggest that the stress experienced by Alberta pharmacists varies with gender, age, work setting, position, and the average number of prescriptions dispensed daily. A positive correlation was found between State anxiety and AII scores ($r=.49$, $p<.001$), Trait anxiety and AII scores ($r=.63$, $p<.001$), and POSS-B and AII scores ($r=.42$, $p<.001$). It was concluded that the belief systems endorsed by the pharmacists were major factors in the degree of stress or anxiety experienced. There are, however, other presently unexplained factors which also play a role in the perception of pharmacy-related stress.

## ACKNOWLEDGEMENTS

I would like to thank the members of my committee: Dr. Shannon-Brady for his attention to detail and helpful suggestions; Dr. Friesen for his valuable insights into the profession of pharmacy; and last but certainly not least, Dr. Zingle for his encouragement, kindness and guidance.

I would also like to thank my family for their unwavering support; special thanks to my mother, Jacqueline Blevins, without whom I would never have made it this far. Thanks to Karen who never once complained about tripping over stacks of "thesis" and was always there as a sounding board. Thanks to Jerry - his encouragement and computer made my life much easier. And thanks to Terry for helping out with the final leg of this journey. I appreciate all of you more than you'll ever know.

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# CHAPTER 1

## INTRODUCTION

The concept of stress has become quite commonplace and perhaps even fashionable in our society today. However, what is often not recognized is that there are several theoretical frameworks from which stress can be viewed. When speaking of stress, one can focus on environmental conditions believed to induce stress such as noise, time pressures, and recent life events.. It is also possible to examine responses to stress which can range from physiological arousal to subjective distress to physical illness. Alternatively, emphasis can be placed on the interaction between possible stressors in the environment and the characteristics of the individual exposed to these stressors. Cognitive psychologists adhere to the third perspective in that they believe that emotional reactions such as stress arise from an individual's cognitions - thoughts, beliefs and attitudes - about a given situation. Therefore, the degree of stress experienced in a certain situation may be dependent upon how it is interpreted by the individual involved rather than by the situation itself (Ellis, 1978).

Ellis used the idea that emotions result from one's thoughts and interpretation of events as a central theme in developing rational-emotive therapy (RET) in the 1950's. Although RET is a relatively young theory, this underlying assumption dates back as far as the first century A.D. when the stoic philosopher Epictetus wrote: "Men are disturbed not by things, but by the view which they take of them" (Corsini, 1979). This notion has echoed through history. Buddist teachings state that human life is predetermined, and that we have no control over the external world. What we *do* control is how we interpret the events which fate delivers to us (Allen, 1983). This thought was also

repeated in Shakespeare's *Hamlet* : "There's nothing either good or bad but thinking makes it so" (Corsini, 1979)..

Within the field of psychology Freud, in an early work, wrote that "a great number of hysterical phenomena, probably more than we suspect today, are ideogenic" (Breuer & Freud, 1957). In later publications, however, he implied that emotions exist independent from any thinking process (Corsini, 1979) Ellis himself credits the work of Alfred Adler as being a modern influence on the development of RET (Corey, 1986). According to Adler, "a person's behavior springs from his ideas" (Adler, 1964a); and "Meanings are not determined but we determine ourselves by the meanings we give to situations" (Adler, 1964b).

Despite the lengthy history of such ideas, it is still common to view thought and affect as separate entities, and to imbue situations with the capacity to unwillingly evoke emotional responses from their participants. Ellis (1979) argues that thought, affect and behavior are intertwined, and that emotions arise from one's beliefs, interpretations, evaluations and reactions associated with a given situation rather than from the situation itself. This can best be illustrated through his A-B-C theory of personality (Ellis, 1962; Ellis & Harper, 1975). According to this theory, after the occurrence of an activating event (A), an emotional and behavioral consequence (C) will take place. However, A does not directly cause C; rather one's beliefs (B) about the event intervene, and partially determine (at the very least) which cognitive, emotional and behavioral consequences will occur (See Figure 1). Therefore, emotions are the result of an evaluative cognitive process which relies upon a person's belief system as a point of reference.

**A** (activating event) ---**B** (belief)---**C** (emotional & behavioral consequences)

Figure 1. A-B-C theory of personality.

According to Ellis (1963), human beings have a unique capacity for being both rational and irrational. When one's beliefs about an activating event are based upon ideas which are illogical, unempirical and unrealistic (*irrational ideas*) the result is emotional unhappiness, anxiety, depression or stress. He lists eleven standard irrational ideas which are propagated through Western civilization, leading to "widespread neurosis" (p.61). Included in the list are the following:

1. It is necessary to be loved or approved of by all people considered to be significant;
2. it is necessary to be completely competent, adequate, and achieving to consider oneself worthwhile;
3. it is catastrophic when things are not the way one desires them to be;
4. unhappiness is caused by external events, and there is nothing that one can do to control one's feelings and sorrows.

Unattainability is the defining feature of the above and any other irrational idea or belief referred to in this study (Weinrach, 1980).

Because it is quite unlikely that the universe will change according to the desires of any one individual, and could not possibly change to accommodate the desires of

everyone, it follows that those who strongly endorse these irrational beliefs are bound for disappointment at the very least. As was stated earlier, the possession of irrational beliefs may result in, among other things, anxiety and stress. Thus it follows that the theoretical tenets of RET may be used as a framework from which to study stress.

Job-related stress is one area of research to which the basic assumptions of RET could be applied. It is not surprising that this topic has received a great deal of attention in the last few years given the findings that stress experienced in the workplace can decrease job satisfaction and efficiency, increase absenteeism, and affect the health of employees (Veniga & Spradley, 1981). In response to this situation, researchers have been investigating the stress experienced by members of specific professions such as nursing (Constable & Russell, 1986; Numerof & Abrams, 1984), medicine (Krakowski, 1982; May, Revicki & Jones, 1983), and teaching (Anderson & Zingle, 1986; Hiebert & Farber, 1984). However, in almost every research study reviewed by this author, stress is viewed as something inherent in the occupation, independent of those who are experiencing the stress.

Examining job-related stress from an RET framework may result in a different interpretation. Ellis (1978) would argue that the occupations being studied are not stressful in and of themselves; rather, the stress experienced in a certain profession may be determined at least partially by how the individuals in that profession are perceiving and interpreting their situation.

The present study applied Ellis' conceptions of stress and its origins to examine the occupational stress experienced by pharmacists in Alberta. Recent studies have indicated that pharmacy is among those professions whose members are suffering from

high stress levels (Ciacco, Jang, Pfifferling & Eckel, 1982; Pfifferling & Eckel, 1982; Wolfgang, 1987). Evidence of this stress may be seen in statistics on suicide and substance abuse amongst pharmacists; although it is certain that other factors have also come into play, it seems likely that stress played a significant role. As an example of such statistics, a survey of professional/technical workers found pharmacists to have the second highest rate of suicide - 104 per 100, 000 per year (Rose & Rosow, 1973). In addition, it has been estimated that up to 15% of pharmacists in Ontario are drug or alcohol dependent ("Pharmacist Drug Abuse", 1986). Some authors have suggested that the stress experienced by pharmacists is at least partially responsible for the high job turnover rates, difficulty in filling job positions, migration of younger pharmacists from the profession, and high rates of burnout currently being witnessed (Ciacco, Jang, Caiola, Pfifferling & Eckel, 1982; Radde, 1982; Wolfgang, 1987). In short , it appears that the profession as a whole is facing a potential crisis situation which may be due to the stress experienced by its members.

Of the literature on stress in pharmacy reviewed for the current study there was only one example of Canadian data (Walker, 1988), and none at all from Alberta. Unfortunately, the Canadian study was only a brief, informal report on the proceedings of a stress management workshop, and offered a rather small sample (N=24). Thus, it seemed that there was a need for a larger scale study on the stress experienced by Canadian pharmacists. Because of the time and cost that would be incurred by a Canada eide study, the current study focused only on pharmacists in the province of Alberta.

The main thesis of this study is that while there may be many characteristics of the pharmacy profession which have the potential to invoke stress, whether or not

stress is experienced may be infuenced by how each pharmacist chooses to interpret each situation. Those who hold irrational beliefs pertaining to their jobs, and life in general, may experience higher stress levels than those who do not .

Specific questions to be examined will include the following :

1.) What is the nature of the stress experienced by pharmacists working within the Alberta health care system? This will be determined by comparing stress levels of pharmacists of varying genders, ages, employment settings , managerial levels and work loads.

2.) Is there a relationship between the degree of stress reported by Albertapharmacists and the degree to which they subscribe to irrational beliefs?

# CHAPTER 2

## THEORY AND RELATED LITERATURE

### Introduction

Because the topic of this study - the relationship between stress and irrational beliefs in pharmacists - draws from several different bodies of research, each will initially be discussed separately. The concept of stress will first be reviewed in terms of Hans Selye's work. A synopsis of the cognitive approach will follow, with particular emphasis on RET. The topic of occupational stress will then be explored, first in general terms, then specifically in regards to pharmacy . Finally, an attempt will be made to draw together the information gathered from the literature to form a concise framework on which to base the present study.

### Models of Stress

Models of stress research generally fall into three categories: those that focus on i.) *stimulus* , ii.) *response*, or iii.) an *interaction* between the two. Traditional theories tend to fall into the former two categories. Generally, they view stress either as an environmental stimuli, such as an examination or electric shock, or as the response of an individual to such stimuli as demonstrated by physiological arousal or subjective distress (Folkman, 1984). However, according to the third perspective listed, stress does not result from the environment, nor is it simply the response of an individual; rather it arises from the *interaction* between an individual and the environment (Lazarus, 1981). This relationship, characterized as constant, dynamic, and bidirectional, is the

focal point of the cognitive model of stress (Coyne & Lazarus, 1980; Folkman, 1984).

Because the traditional stress models paved the way for contemporary research and theory, it would be useful to discuss the older models briefly. In particular, the work of Hans Selye will be described, followed by a discussion of the cognitive analysis of Selye's research, and finally a review of the literature supporting the cognitive perspective on stress.

Selye's Model

Hans Selye is regarded by many as the pioneer of stress research (Allen, 1983). His theory on the nature of stress is often considered to be among the most popular and comprehensive available in the field (Hamberger & Lohr, 1984). According to Selye (1974) stress is a physiological response to demands made on the body. All stressors, whether they include a chess game, a kiss, bronchitus or a sprained ankle, produce the same nonspecific biochemical response (Selye, 1980). Specifically, all stressors demand that the body adapt and re-establish homeostatsis. The nonspecific adaptive response is always the same; it varies in degree only. Therefore, the intensity of the adjustment called for determines the intensity of the response. Stress is also nonspecific in that it demands that all organs adapt, and that it could potentially affect every system in the body (Allen, 1983).

As was alluded to earlier, stress results from both positive and negative events (Selye, 1980). Stress reactions that threaten or damage the body are referred to as *distress* , while that stress which challenges and produces growth is distinguished as *eustress*. Therefore, according to this theory, the birth of a child

and the death of a loved one result in the same physiological reaction and are both classified as stressful.

When a stressor is encountered, the specific process that occurs is referred to as the *General Adaptation Syndrome* (GAS) (Selye, 1974). This syndrome involves three stages: 1.) the alarm reaction; 2.) the stage of resistance; and 3.) the stage of exhaustion. Following the initial alarm reaction the body begins to adapt and resist the harmful effects of the stressor. Eventually, however, the body's adaptive energy is consumed to the point of exhaustion. Selye suggests that complete exhaustion results in death.

Although Selye's work is widely cited, it has also been criticized on several counts. For example, Selye based his theory on research done with physical stressors, consisting mainly of chemicals, hormones and poisons (Hamberger & Lohr, 1984). However, in contemporary society most stressors confronted are not physical in nature; in fact most require cognitive intervention to produce arousal and a physiological response (Allen, 1983). It is not clear that the physical agents used by Selye (1974, 1980) and the biochemical responses they create can be equated with everyday stressors.

Other methodological flaws in Selye's research have been revealed. Several studies have indicated that not all physical agents create the nonspecific reaction on which Selye based his theory; many stressors require mediation from other variables to produce physiological arousal (Hamberger & Lohr, 1984). In regards to Selye's concepts of eustress and distress, recent research shows that threat and challenge are independent rather than diametric qualities and can therefore occur simultaneously (Folkman, 1984).

Cognitively oriented critics of Selye's work argue that he neglects the human ability to perceive, interpret and appraise ongoing events in the environment. They argue that cognitions are key determinants in whether stress will be experienced or not. In fact, it has been argued that cognitions may precede arousal in that a person first recognizes the danger or challenge in a situation and then responds with physiological arousal (Lazarus, 1977). This, in fact, is in line with the alarm reaction in Selye's general adaptation syndrome (Selye, 1974). Yet he all but disregards the perceptions involved in recognizing an alarming situation. In addition, it is unclear whether it is the physically noxious effects of the stimuli *or* the psychological significance of the potential injury which produces the physiological changes related to stress (Lazarus, 1977). Finally, it has been argued that Selye disregards the possibility that positive events (i.e., eustress) may actually cause distress if they are perceived to be beyond one's coping ability (Hiebert, 1983).

A final difficulty that cognitive psychologists have with Selye's theory pertains to individual differences. According to Selye (1980) a nonspecific biochemical response occurs across individuals and species in the presence of a stressor. He does, however, pay some heed to individual differences, as is evident in the following statement:

> Since there are no two identical individuals, it is not surprising that the same stressor may affect different people in different ways and to different degrees. (p.136)

He argues that these differences may be due to genetic predisposition, sex, dietary deficiencies or other similar factors. However, this argument seems

rather circular: People react differently because people are different. He also neglects to mention any differences involving personal choice or thought. A review of the literature reveals that people do indeed react differently, and sometimes even oppositely to the same stimuli (Meichenbaum, 1975). It may be more accurate to hold subtle differences in appraisals of situations responsible for individual variations in physiological response, the intensity of the related emotion, and the types of solutions sought (Lazarus, 1977).

In summary, Selye (1974, 1980) views stress as a physiological response to any stimuli which requires that the body adapt. Using this definition, stressors can be either positive or negative; if they produce a need for change, they are producing stress. Although Selye's work has been widely cited, its applicability is limited by the fact that he used physical stressors in his research. Therefore, while his theory is useful in understanding responses to physical stressors, it does not address issues such as cognitive appraisal and individual differences. Cognitively-oriented critics of Selye's model argue for the importance of such factors in understanding the human experience of stress. The following section further examines the cognitive alternative to stress research and theory.

Cognitive Model

It should be clear from the above review that the role of cognition is of utmost importance in comprehending the experience of stress. As was mentioned earlier, one's cognitions about a certain event may actually determine whether or not it is perceived as stressful. Individuals are continually evaluating their interactions with the environment, and appraising their abilities to meet the

related demands; if a situation is appraised as being potentially threatening, challenging, or harmful, stress is experienced (Coyne & Lazarus, 1980). Appraisal occurs in two stages: in *primary appraisal* the individual asks "Am I okay or in trouble?" (p. 153). During *secondary appraisal* resources and options available to deal with the situation are evaluated. Therefore, the key to predicting how much stress will be experienced in the event of threat, challenge, or harm lies not in the situation or its demands for physiological adaptation, but in how effectively individuals believe they can cope with the situation (Hiebert & Basserman, 1986).

The common thread linking all forms of cognitive therapies is the assumption that changes in behavior will follow alterations in a person's thoughts (Meichenbaum, 1975). A key force in this movement has been Albert Ellis. Ellis' Rational Emotive Therapy (1962, 1975) is based on the idea that

> emotional or psychological disturbances are largely a result of ... thinking illogically or irrationally, and that <one> can rid <one>self of most ... emotional or mental unhappiness ineffectuality and disturbance if <one> learns to maximize his rational thinking and minimize his irrational thinking (p.36)

Many studies have suggested that there is some relationship between stress and irrational thinking. Irrational beliefs that may contribute to ratings of trait anxiety include anxious overconcern, personal perfection, catastrophizing and helplessness (Deffenbacher, Zwemer, Whisman, Hill, & Sloan, 1986). Individuals with high scores on measures of irrational beliefs report more anxiety than those with low scores after listening to potentially stress inducing

tapes (Davison, Feldman, & Osborn, 1984). Poor copers can be distinguished from good copers by higher endorsement of irrational beliefs (Schill, Adams, & Ramanaith, 1982; Witmer, Rich, Barcikowski & Mague, 1983). Individuals evidencing neurotic and psychopathological behavior can be distinguished from those identified as normal through MMPI(Minnesota Multiphasic Personality Inventory) profiles by their higher scores on irrational belief instruments; this suggests that greater irrationality is related to greater maladjustment (Evans & Picano, 1984; Newmark, Frerking, Cook & Newmark, 1973). A positive correlation between depression and irrational beliefs has also been found (Nelson, 1977). Finally, people high in the endorsement of irrational beliefs generally show more evidence of emotional distress than low scorers (Smith, Boaz, & Denney, 1984; Smith, Houston & Zurawski, 1984). In regards to therapeutic gain, R.E.T. has been cited as an effective means of reducing speech, test and interpersonal anxiety (Suinn & Deffenbacher, 1980). It also has a strong data base for stress management, the ultimate goal of which is the alteration of stress-inducing value systems.

In summary, there are varying perspectives from which to define and study the phenomena of stress. Although it appears that stress was most commonly viewed as an involuntary response to environmental stimuli in the past, support currently is building for a more cognitive approach. Therefore, the importance of cognitions, thoughts and beliefs in determining whether or not a stimuli will be experienced as stressful is increasingly being recognized. Based on this assumption it is possible to predict that should one's cognitions

and beliefs be based on irrational premises, it is very likely that a stress response will occur.

The realms of stress research are vast and could not possibly be contained within the time and space allotted for this study. For our purposes the preceding discussion on different definitions of stress, and support for our preference of a cognitive model will have to suffice. In the section that follows, the range of interest will be narrowed considerably by examining only that stress which is related to one's occupation.

Occupational Stress and Burnout

Within the field of stress research, much attention has recently been focused on stress experienced on the job. Some argue that

> "Job stress" and "burn out" have become two of the buzzwords of the 1980's. Already both are a bit shopworn, victims of too much media hype and of the attitude that "of course job stress and burnout are problems; they always have been". (Paine, 1982, p. 11).

An unfortunate by-product of this attention has been that the true price of occupational stress has been obscured. The author points out that while it is likely that people have always been stressed by their jobs, it used to be that when the stress got to be too much, a person could leave. However, current social, political and economical trends have increased stress while decreasing available options. Thus, while the experience of stress may not have changed much over time, the context in which it occurs is much different.

As was noted earlier, stress experienced on the job affects worker health, job efficiency, and productivity (Veniga & Spradley, 1981). The

likelihood that such stress will occur is quite high when the following factors are considered:

(1.) the major life events found to be related to physical and emotional health and illness (i.e., marriage, divorce, birth of children) are likely to occur during the working years and may therefore influence how stressful a job is perceived (Rogers & Cochrane, 1984).

(2.) daily hassles, such as those commonly encountered on the job may be better predictors of physical and emotional health than major life events. These may include repetition, boredom, limited opportunity for advancement or lack of meaning and commitment (Lazarus, 1981).

(3.) a considerable proportion of adult life is spent at work; that stress is experienced during this time is only to be expected.

Research in occupational stress tends to fall into two camps: that focusing on organizational or environmental stressors.. and that concerning the phenomenon of burnout in the human service professions. Both perspectives will be reviewed briefly.

Organizational Stressors

Research done on organizational factors in job-related stress tends to operate on the assumption that there are certain features of every job which are invariably experienced as stressful. These may include job factors such as unpleasant working conditions, repetition, and overload (Cooper & Marshall, 1976). Overload may be quantitative - there being too much work to do - or qualitative - the tasks required being beyond the skills or training of the person

involved. Factors related to career development policies may also be stressful; the organization may invoke over or under promotion, inadequate job security, or incongruent status within the organization. Relationships with superiors, colleagues and subordinates may also be sources of stress. Finally, there may be characteristics of the organization itself which promote stress. Two main factors appear to be *role ambiguity*, or uncertainty in regards to one's rights, responsibilities, goals and status, and *role conflict* which occurs when job demands are incompatible, inconsistent or inappropriate (Farber, 1983). According to this literature, job-related stress results from the types of factors listed, so that attempts to alleviate the stress being experienced must be directed at changing the organization involved. It is interesting to note that for those individuals who consider stress from this perspective, little if any attention is paid to employees on an individual level.

Burnout

Research done on stress in the human service professions (i.e., those that involve direct contact with people such as nursing, social work, medicine, and teaching) tends to focus more on burnout than job- related stress per se. It shares with the literature cited above an emphasis on the characteristics of the professions involved that may be experienced as stressful. However, there appears to be little else linking these bodies of research.

Although Freudenberger(Freudenberger and Richelson. 1980; Freudenberger 1983) is usually credited with first using the concept of burnout to describe a state of physical and emotional exhaustion resulting from working

conditions, the term actually first appeared in the 1930s in relation to athletes and performing artists (Farber, 1983; Paine, 1982). However, it was not until the mid-seventies that the concept of burnout became popular. It has now been saddled with such catchy phrases as "the crisis of the '80's" and "the disease of modern life" (Maslach, 1982, p.29).

It would be useful at this point to describe what is meant by the term burnout and how it differs from job-related stress. There is, however, no standard definition for the term. After reviewing the literature, Perlman and Hartman (1982) arrived at the following as an empirically supported definition: Burnout is a response to chronic emotional stress, and involves physical and psychological exhaustion, decreased job productivity, and depersonalization. It may also involve a negative response towards oneself and one's accomplishments (Maslach, 1982). The exhaustion spoken of earlier may reach into one's intellectual, interpersonal and spiritual life as well (Paine, 1982). Burnout has also been described as a state of frustration or fatigue resulting from dedication to a cause, lifestyle or relationship that has not produced the expected reward; in other words, one is committed to expectation rather than reality (Freudenberger & Richelson, 1980). Alternatively, burnout can be seen as a spiral of lost energy, vitality and interest (Radde, 1982). This cycle of disenchantment is often accompanied by the perception that one is unable to cope with the situation at hand (Pfifferling & Eckel, 1982). From this brief synopsis it is clear that what is meant by burnout seems to differ from author to author. The central idea seems to be, however, that too much stress can lead to complete

exhaustion, and thus severely impair an individual's ability to function professionally, socially and personally.

From the definitions offered above, the link between burnout and job-related stress seems tenuous at best. There appears to be a great leap between feeling stressed at work and a total depletion of energy and interest in one's job. Burnout may be the last in a series of unsuccessful coping attempts directed at a variety of stressful conditions:

> burnout is not the result of stress per se ... but of *unmediated stress* - of being stressed and having no "outs", no buffers, no support systems (Farber, 1983, p. 14).

Various models of burnout have been offered with different numbers of stages. Radde (1982), for example, describes a five stage progression towards complete burnout. The first step involves physiological symptoms such as chronic lethargy, fatigue and back aches. In the second stage the burning out person expresses a preference for objects over people to the point where relationships begin to deteriorate. During the third or intellectual stage the person escapes from the demands of work by daydreaming and procrastinating. The fourth or psychoemotional stage involves withdrawal, and the use of drugs and alcohol as a means of escape. The final stage of burnout is spiritual in nature in that the individual begins to doubt core beliefs and values.

Another model of burnout uses three stages to characterize the process: 1.) a discrepancy between demands and resources; 2.) behavioral and physiological responses such as anxiety, fatigue and negative attitudes; and 3.) emotional detachment from the profession (Pfifferling & Eckel, 1982).

The relationship between stress and burnout is explained further in the examination of why burnout occurs. As far as the human service professions go, there is consensus that burnout is related to the continual emotional pressure of being involved with people; in fact, the more time that is spent in direct client contact, the higher the risk of burnout (Maslach, 1976, 1981; Pines, Aronson & Kafry, 1981).

> The emotional pressure of working closely with people is a constant, relatively stable part of the daily routine. What varies is the tolerance of the practitioner for this continual stress, a tolerance that gradually wears away under the neverending onslaught of emotional tensions (Maslach, 1981, p. 239).

Maslach described the situation in the health care professions as one involving too many patients, the need to make decisions with too little information, possibly life-threatening consequences of decisions made, and the demand for accuracy. These descriptions are reminiscent of the terms used in studying organizational stress, such as poor working conditions, work overload, role conflict and ambiguity. In Maslach's terms, the health care professions appear to be stressful by their very nature, and burnout seems to be inevitable.

Explanations for the occurrence of burnout other than those discussed above include nutritional and developmental models. Burnout may occur because of a depletion of nutrients vital to combatting stress (Rosenbluh, 1984). Suran and Sheridan (1985) offer an interesting Eriksonian explanation of burnout: they argue that professionals encounter a series of developmental stages complete with a crisis to resolve at each stage. Therefore, early in one's professional life, one must establish an identity or suffer role confusion. The next step involves acquiring competence, followed by the challenge to consolidate and develop a

special niche within one's profession or experience aimlessness or stagnation. The final stage set out by the authors involves either redefinition and reassessment of career goals or feeling that one has done as much as can be done. If this developmental model matches the experiences of professional development, it may explain the definitional problems encountered earlier. In other words, burnout may be experienced differently by individuals at different stages of their careers. Thus, what may be needed is a developmental definition of burnout accounting for these stages rather than battling over one definition that would fit all experiences.

Individuals at Risk

Up to this point, the occupational stress and burnout literature reviewed has steadfastly focused on factors in the environment - i.e., the workplace - that invariably produce a stress response in those involved. However, in exploring which individuals are at the highest risk of experiencing burnout, the argument that a given situation always results in stress and burnout falters. Several personality characteristics have been found to be predictive of burnout, thus implying that some type of cognitive intervention between the person and environment is operating.

It is ironic that burnout-prone individuals have likely excelled in their chosen field. Pines, Aronson and Kafry (1981) describe this phenomena as follows: "in order to burn out a person needs to have been on fire at one time" (p.4). It is the most caring, involved professional who tends to be the most sensitive to the inevitable discrepancy between efforts and results (Farber,

1983). Those individuals who make excessive demands on themselves, and are devoted to perfection are at the highest risk:

> {the} accomplishers and doers who have no room in their philosophies for what they consider weakness . . . They {have} enough determination and willpower to lick anything. (Freudenberg & Richelson, 1980, p.3).

The obvious implications these characterizations have for applying an RET framework to the study of occupational stress and burnout will be discussed later.

Two specific groups that have received attention in regards to burnout are young professionals and women. Age has been found to be negatively correlated to burnout: younger individuals are more prone to burnout than their older, more experienced colleagues (Ciaccio, Jackson, Pfifferling & Eckel, 1982; Deutsch, 1984; Huberty & Huebner, 1988). This may be due to unrealistic ideals of what can be accomplished often held by those just entering their chosen field (Maslach & Jackson); 1982; it may also be that highly stressed professionals leave the field when they are young (Deutsch, 1984).

Working women have been a particular interest to some researchers in the area of stress and burnout. In addition to dealing with stressors at work, these women must contend with such issues as whether or when to have children, possible conflicts between achievement and femininity, meshing their careers with those of their husbands, the effects of their working on their children, and for an increasing number, the challenge of single parenthood (Jacobson, 1982). Many professional women are employed as nurses, social workers, teachers and counselors; these types of jobs, especially when combined with the task of

raising and nurturing children, amount to enormous degrees of emotional availability (deKoninck, 1984). deKoninck points out that for most women the home is also a workplace, affording little opportunity to renew resources. Because it would be virtually impossible to fulfill the functions of wife, mother and employee to a satisfactory degree, many working women may be overcome with guilt. If guilt felt from this tri-role conflict is dealt with by overcompensating and becoming a "supermom", the working woman is buying into the belief that perfection is attainable, and thus puts herself at risk of burnout (Pines, Aronson & Kafry, 1981).

As was mentioned earlier, one of the implications of stress and burnout is the potential loss of the top people in a given profession or organization (Pines, Aronson & Kafry, 1981). These authors note other costs including the years and expense of wasted training for those who choose to leave their fields, the psychological cost for those who choose to stay, lost talent, poor performance, and less attention and care for the recipients of the professional's services. Additional implications include low morale, absenteeism, job turnover, and possibly substance abuse, mental illness, physical illness, marital problems and suicide (Maslach, 1976; 1982). It may be that so much energy is channelled into attempts to cope with the stress being experienced that there is little left over for functioning effectively on the job (Reiner & Hartshorne, 1982). In short, stress and burnout involve a personal, organizational and social price, and the indications are that the cost is rising (Paine, 1982).

In summary, burnout is a stress-related phenomena resulting in physical and psychological exhaustion. It progresses gradually in what seems to

be a step-like fashion. Although some authors believe that burnout occurs as a result of working closely with people, it seems more plausible that burnout, like stress, depends on individual beliefs for its existence. It appears that those most affected by burnout tend to be people overly-dedicated to their careers; these individuals tend to strive for unrealistic goals and expectations. Therefore, the constant striving and inevitable frustration may be more responsible for burnout than simple human contact.

Limitations

As has been alluded to throughout the preceding review, the current literature on stress and burnout is encumbered by several limitations. The most obvious and perhaps most important concerns the issue of definition. The definition of job-related stress has become so generalized and imprecise that the term can be used to refer to pressures involved in the work setting (i.e, workload), the effects of experiencing stress on the job (i.e, poor performance), or long term reactions such as burnout. (Cooper & Marshall, 1976). This has also been the case especially in regard to the term burnout, definitions of which have been contradictory, vague or overinclusive (Freudenberger, 1983). As the definition of burnout expands, it risks becoming synonymous with and indistinguishable from occupational stress (Maslach, 1982). It thus becomes necessary at times to rely upon the literature on burnout even though information on the earlier stages of job related stress is the actual topic of interest. This is especially true in the case of occupational stress in the health- related professios.There appears to be a need, therefore, for more

emphasis on the middle ground between exposure to potentially stressful situations and the seemingly terminal state of burnout.

One of the main methodological flaws in this body of research concerns the use of correlational studies. Being that the majority of the occupational stress and burnout research uses this type of analysis, it is not possible to draw assumptions of causality (Cooper & Marshall, 1976). Thus, it is difficult to see exactly what is responsible for the stress being experienced.

One criticism of the burnout literature has been its emphasis on psychological factors or "individual faults" (p.352) rather than organizational dysfunctions (Handy, 1988). The argument continues that individual perceptions of situations are superficial starting blocks for the study of stress and burnout since the causes of stress are societal and organizational in nature. Maslach (1976) states that

> many of the causes of burnout are located not in permanent traits of the people involved but in certain specific social and situational factors (p.22).

In fact, when people blame themselves for experiencing stress it may lead to a sense of failure and loss of self-esteem (Maslach & Jackson, 1982).

The attempt to swing the focus of burnout research from the individual to the organization may serve to bridge the gap between the areas of occupational stress and burnout. As was mentioned earlier, although they share the assumptions that work can be stressful, and that the stress experienced can be harmful, the two bodies of literature have little else in common. However, by emphasizing the organization over the individual some very important facts would be obscured. For instance, although burnout *may* result from prolonged exposure

to stress, stress can be and is experienced by many individuals without any adverse effects (Deutsch, 1984). Therefore, there must be factors protecting some people while predisposing others to stress and burnout. As was argued before, these factors are likely cognitive in nature.

Rather than tackling the onerous and somewhat abstract task of rendering organizations less stressful, proponents of RET argue that stress is a reality both of life in general and work in particular (Weinrach, 1980). Part of this reality is the fact that most stressful characteristics of jobs are not readily amenable to change. For example, while it is true that most professionals in the human services are understaffed and do have extremely large caseloads, this is not likely to change without increased funding, which in turn is dependent on the government (on all levels) and the economy - in short there are many factors over which we have little or no control. In response to this fact RET offers effective means of dealing with the stress experienced on the job, and of converting related anger, fear, and depression to annoyance, apprehension and disappointment (Weinrach, 1980).

Ellis (1978) believes that job-related stress is no different from any other stress in that it is the result of irrational thoughts, beliefs and perceptions. He acknowledges that there are situations which can be appropriately evaluated as unlikeable, unfortunate or annoying; however, when that evaluation extends to include such words as awful, horrible or unbearable is when irrational stress sets in. If that were not enough,

> people not only partly create (or conceptualize) the original 'stressors' they experience, but they also bring about their over-reactions to these 'stressors'. Then, to crown their self-imposed

> inequity, they damn themselves - and thus immensely escalate their 'stress'. A vicious circle - or endless spiral, if you will - that seems to have no finish line! (p.214)

The preceding description may bring to mind those individuals characterized as high risk candidates for burnout. Are those individuals who have devoted their lives to the attainment of perfection not pursuing an irrational finish line that does not exist? Is it not irrational to exhaust personal resources by striving to reach an unrealistic goal? Several researchers agree that the endorsement of irrational beliefs may be related to stress. From these researchers the following occupational irrational beliefs have been compiled:

1. I should always work at my peak level of enthusiasm and competence (Deutsch, 1984, p. 839)
2. I should be able to handle any client emergencies that arise.
3. I should be able to help every client. (Forney, Wallace-Schutzman, & Wiggers, 1982, p. 437).
4. My job is my life.
5. Things have to work out the way I want
6. My worth as a human being and my performance as a {_____} are intricately related. Therefore I must be the best {_____} or I am a failure as a human being (Weinrach, 1982, p.242-243).
7. In order to be a competent {_____} I must fulfill all of society's expectations or else I am a failure.
8. I must never make a bad mistake or else terrible and awful consequences will result.

It is not difficult to imagine how subscribers to any of the above beliefs would be susceptible to job-related stress and burnout. This assumption has been borne out by empirical research. Perceptions of job-related stress with teachers correlates to the endorsement of irrational beliefs (Anderson & Zingle, 1987). Career development professionals who were experiencing no difficulty coping with their jobs were found to use rational thinking to disarm the types of myths as cited above; those who endorsed irrational thinking tended to be stressed (Forney, Wallace-Shutzman & Wiggers, 1982). Although it is difficult to be conclusive on the basis of only two correlational studies, the apparent relationship between stress and irrational thinking suggests that RET may be a useful framework from which to approach the general issue of job-related stress.

Now that the concept of job-related stress has been expounded upon briefly, we will turn to the literature specific to pharmacists.

Pharmacy-Related Literature

From the literature surveyed thus far it is clear that members of many professions are experiencing stress in the workplace. It appears that professionals employed in health-care settings such as nurses and physicians are particularly at risk of experiencing job-related stress and have disproportionate numbers of stress-related problems such as coronary heart disease, substance abuse and suicide (Maslach & Jackson, 1982). It seems logical, therefore, to assume that pharmacists are experiencing stress in a similar fashion to that described in other health professions. Evidence for this assumption can be derived

directly from reports on burnout and stress, and indirectly from reports of attrition and job satisfaction rates. These issues will now be discussed.

It is interesting to note that very few studies have addressed stress in pharmacy per se. Among those that have there is little consensus in terms of what is described as stressful for pharmacists. In 1982, five hundred and fifty six pharmacists in Texas completed the Pharmacy Occupational Stress Scale (POSS); their responses indicated which of 54 job situations listed on the survey were perceived to be the most stressful (Wolfgang, Kirk & Shepherd, 1985). The study found that interruptions by clients or telephone calls were the single most stressful job situation faced by Texas pharmacists. Also high on the list were being inadequately staffed, having conflicting job and family responsibilities, handling third party paperwork and feeling inadequately paid.

A similar study was done in Manitoba in 1984. Participants at a stress management workshop were asked to list and rank as many stressful job situations as possible (Walker, 1988). Heading their list was robberies, physician inconsideration, falling behind in filling prescriptions, dealing with impatient customers, and staff problems. Interruptions at work was identified by only 5% of the respondents and given a relatively low stress rating (60 out of 100). This contrasts sharply with the Texas survey in which it was ranked as the number one most stressful job situation. In addition, the Texas survey found no difference between males and females, while the Manitoba results suggest that women perceive more stress than males in regards to the conflict between job and family responsibilities.

A third study done in Illinois reported results completely different from those found in Texas and Manitoba. In this survey, items included in a financial security factor were found to be most stressful (Gold & Nelson, 1976). Specific situations with high stress ratings included posting prescription prices (mandatorily or voluntarily), re-examination for relicensure, growth of chain pharmacies and patients asking for unauthorized refills.

Although these three studies do not provide a consistent picture of why pharmacy is stressful, they do allow us to conclude that like nurses and physicians, pharmacists are feeling stressed by their jobs. In a study comparing stress levels among health professionals, nurses reported the highest levels of stress followed by pharmacists and then physicians (Wolfgang, 1988). Pharmacists scored higher than the other two groups on items relating to dealing with interruptions, lack of challenge, not being recognized as a true health professional by other health professionals, and possession of inadequate information. Wolfgang states that in regard to the final factor, pharmacists do not have access to patient diagnoses and other pertinent information that is available to doctors and nurses, and are therefore not able to provide optimal services.

Several studies on stress and pharmacy have revealed interesting findings on sex and age differences. These will now be discussed.

Sex Differences

In a survey of Michigan pharmacists, women scored lower than men on measures of job satisfaction, intrinsic reward satisfaction and influence reward satisfaction; in addition they reported having fewer opportunities for

psychological achievement and success (Quant & McKercher, 1982). However, the authors do not define what is meant by the terms used, rendering interpretation of these results difficult. The finding that women are less satisfied (in general terms) with their jobs than their male colleagues has been replicated (Noel, Hammel & Bootman, 1982). Results on anticipation of job turnover have not been as consistent: Quant and McKercher (1982) found women more likely to change jobs while Wolfgang (1987) reported that intentions to change jobs within the next year to be unrelated to gender.

Several explanations have been offered for the expression of discontent by female pharmacists. Women do not advance as quickly as men (Shepherd & Kirk, 1981), and they are paid less. A study conducted in 1982 found that in chain pharmacies male pharmacists averaged $2186.00 more per year; in independent pharmacies the difference was over $4000.00 (Glaser, 1982). One quarter of women pharmacists questioned in 1980 listed sexual discrimination as a serious problem (Shepherd & Kirk, 1981). Shepherd and Kirk also identified lack of acceptance by the public as a female-specific stressor in pharmacy. Other potentially stressful situations for women may include the time demands of working fulltime; juggling family and job when one's children are sick; being underpaid; and unpaid overtime (Walker, 1988).

Age

One of the few areas in the pharmacy stress literature that has yielded consistent results has been that concerning age. The finding that younger pharmacists experience more stress than their elders has been consistently replicated. Pharmacists in the 23-28 year age group reported lower job

satisfaction scores than all other age groups (Noel, Hammel & Bootman, 1982). Almost half of pharmacists under 30 are somewhat likely to change jobs in the upcoming year (Wolfgang, 1987). Young pharmacists also report more negative affect, higher stress ratings, and are at higher risk of burnout than their older colleagues (Ciaccio, Jang, Caiola, Pfifferling & Eckel, 1982).

Job Satisfaction

It seems reasonable to assume that job satisfaction is negatively correlated to job-related stress. Therefore, the greater satisfaction pharmacists derive from their job, the less likely it would be that they experience job-related stress. Job dissatisfaction may lead to lack of interest, absenteeism, high turnover rates and decreased productivity (Curtiss, Hammel & Johnson, 1978). It has also been suggested that low job satisfaction could ultimately lead to burnout (Noel, Hammel & Bootman, 1982). Unfortunately, the findings on job satisfaction among pharmacists have been equivocal.

An early study on job satisfaction among hospital pharmacists found the majority to believe that their work was interesting and important, and that they were allowed to use creativity and judgement on the job (Williamson & Kabat, 1972). However, most also stated that the work they were required to do was below their capabilities, and they were found to be dissatisfied intrinsically and extrinsically. According to the authors, factors causing dissatisfaction included having to do boring tasks, limited contact with patients, poor salary and the

limited scope of traditional practice. These results must be interpreted with caution, however, as the negative tone of the survey used may have created a negative bias in the results. For example, respondents were asked to agree or disagree with the following statements: "As a hospital pharmacist I feel that the hospital administrator is insensitive to my problems"; or "I feel that the work I do is below my capabilities " (p. 946). Given the negative tone of the questions it is not surprising that the pharmacists appeared to be dissatisfied.

A later study also found job satisfaction to be very low for pharmacists on both a general and specific level (Johnson, Hammel & Helnen, 1977). The authors assert that the job discontent experienced by pharmacists is higher than that perceived by the average working person. The reasons cited for this high level of dissatisfaction included the fact that as pharmacists gain more knowledge about drugs and drug reactions, the need for them to use this information has been decreasing. In addition, the emphasis on the patient taught in pharmacy schools is not reflected in the workplace, thereby leaving young pharmacists feeling somewhat disillusioned. Although these seem to be valid points, the results on which they are based are again somewhat suspect. The authors speak of satisfaction levels being very low when in fact the pharmacists' mean score on general job satisfaction was 2.5 on a five-point scale - neither "extremely satisfied" or "not at all satisfied".

More recent studies have found pharmacists to be just as satisfied as the general public (Curtiss, Hammel & Johnson, 1978b; Noel Hammel & Bootman, 1982). Most feel justly compensated, say that their jobs meet with prior expectations and finish the day with a sense of accomplishment (Glaser, 1982).

In addition, over half of the pharmacists surveyed by Glaser stated intentions to stay in the profession.

As suggested by Glaser (1982) job turnover rates can be considered to be a valid indication of job dissatisfaction and stress. A survey done in 1985 by American pharmacists found 25% of the respondents surveyed at least somewhat likely to change jobs in the next year (Wolfgang, 1987). Those pharmacists who encountered the following situations most frequently were more likely to leave their jobs: Lack of constructive feedback from supervisors, not having the opportunity to use one's abilities fully, inconsistently enforced job policies and procedures, and dealing with angry or unappreciative clients.

It can be seen from this review of the literature that it is not possible to develop a clear and definite conclusion about job satisfaction for pharmacists. The studies reviewed were not consistent in their definition of job satisfaction/dissatisfaction; therefore their results are not comparable. In addition, the research practices described do not yield reliable information. Although the literature on job satisfaction should theoretically contribute to a fuller understanding of job-related stress in pharmacy, this does not appear to be the case. Fortunately the research on burnout in pharmacy is of more assistance.

Burnout

Within the field of pharmacy, burnout appears to be fairly common. One study found up to 25% of its respondents to be at high risk of burnout (Ciaccio et al, 1982). In fact, it has been suggested that the training of pharmacists may contribute to burnout. Pharmacy students must adhere to rigorous technical

standards and learn more about drugs than do most physicians; then, later in practice they carry out unchallenging, routine tasks. Pharmacists become at risk of burning out when the discrepancy between their expectations of technical competence and the reality of their actual professional tasks create a feeling of disenchantment. When this is coupled with the demand for accuracy, the likelihood of burnout may increase.

Because burnout seems to be such a problem in pharmacy, there is currently a great deal of literature in the field devoted to the topic of stress management and burnout prevention. Chi (1982) for example suggests that the best way to deal with stress is to learn to identify it early. She also lists rearranging one's schedule to optimize the potential to cope, good management, teaching customers to help, having a hobby or outside interest, exercise. taking vacations, and maintaining family support as effective coping mechanisms. Along similar lines Radde (1982) suggests that one must pay attention to all areas of life included in his stage model - physiological, social, intellectual, psycho-emotional, and spiritual - as well as defining personal limits and forming realistic \ expectations in order to prevent burnout. Finally, it has been suggested that the key to dealing with stress on the job is communication (Knutson, 1987). Knutson states that open communication allows individuals to make accurate predictions; they can thereby control their environment, and thus decrease the stress experienced.

## Summary

Although the body of research is relatively small, interest seems to be growing in the field of stress and pharmacy. It appears that pharmacists are experiencing considerable stress in dealing with their jobs. Reports of low job satisfaction, along with high rates of job turnover and burnout may be interpreted as alarm signals for the profession, especially when they pertain to young pharmacists. For these reasons it seems that there is a need to examine the stress experienced by pharmacists.

## Conclusions

It appears that the literature on stress and pharmacy has had an impact on the profession in that attention is now being paid to stress experienced on the job and to the mental health of its members. The resulting emphasis on means of coping with that stress cannot help but be a positive step towards the overall health of all pharmacists. However, the literature surveyed suggests that because pharmacists are faced with certain situations such as interruptions by telephone and discrepancies between training and practice, they invariably experience stress. The following quotation exemplifies this view:

> When you're the only pharmacist in the store,
> there's a long line of people waiting for prescriptions
> and you have an irate customer on the phone
> demanding to know why his medicine hasn't
> been delivered - and you discover that someone
> forgot to order the inventory - *that's stress* . [italics added]
> (Chi, 1982, p.26)

The alternative interpretation proposed by the current study is that few jobs in and of themselves is stressful. While the scenario presented above does sound somewhat frantic and chaotic, it is not stressful until someone perceives it to be so. It cannot be denied that there are some aspects of pharmacy, or any job, which are undesirable, but stress may rely on cognitive intervention for its existence.

As was stated earlier, the profession of pharmacy appears to be afflicted by the effects of job-related stress. The stress and pharmacy literature to date seems to be sending the message that the profession is inherently stressful, and that it is not surprising that so many pharmacists are suffering the effects of stress. It may be asked, however, if this literature is serving a self-fulfilling function; i.e., do pharmacists reading about stress and burnout in their profession recognize previously undetected symptoms and thus identify *themselves* as stressed or burnt out? It is not clear whether the literature surveyed is being helpful by increasing awareness of the stress being experienced in pharmacy, or if it is being harmful by creating an oversensitivity to stress, and by shifting the responsibility for solutions to the rather hazy entity of "the pharmacy profession".

The current study examined the stress experienced by pharmacists in the province of Alberta. However, unlike the research done previously, this author postulated that the stress perceived does not necessarily emanate from characteristics of the profession; instead cognitive factors in the form of irrational beliefs may somehow be related to the extent to which stress is experienced.

Operational Definitions

In order to quantify the concepts of interest, the following operational definitions were employed:

Stress = scores obtained on Spielberger's (1975) State-Trait Anxiety Inventory, as well as the Pharmacy Occupational Stress Scale

Irrational Beliefs = scores obtained on the Adult Irrational Ideas Inventory.

More information about these instruments is provided in the following chapter.

The Purposes Of The Study

The purposes of this study were first to gather descriptive data about the stress experienced by pharmacists working within the Alberta health care system. It was expected that stress scores would differ in regard to demographic variables such as age, sex, work setting and position. Secondly, we were interested in measuring the relationship between the amount of stress being experienced by pharmacists and the degree to which Ellis' irrational beliefs are endorsed. The following hypotheses will be tested:

There will be a positive relationship between state anxiety, trait anxiety, POSS-B scores, and irrational belief scores.

# CHAPTER 3

# METHODOLOGY

## Sample

The sample for this study was drawn from the membership list of the Alberta Pharmaceutical Association (APhA). All pharmacists residing in the Province (approximately 2146) were sent a questionnaire by mail. Of the questionnaire sent, 845 or 39.4% were returned; it can be assumed that a sample of this size holds the properties of a normal distribution (Pagano, 1981). Forty per cent of the respondents were male and 60% were female as shown in Table I. According to information obtained from the APhA, 45% of the pharmacists currently practicing in the province are men (N=966), and 55% are women (N=1180). The difference between the expected and obtained gender distribution was analyzed using a Chi Square test. The results, illustrated in Table II, indicate that female pharmacists are over-represented in our sample and males are under-represented Chi Square =8.31, $p<.01$). It would seem therefore, that female pharmacists may be more interested in stress, may experience more of the effects of stress, or may simply be more willing to complete questionnaires than are male pharmacists. Tables III to VII provide the distribution of the sample by age, employment setting, work location, position and average number of prescriptions dispensed daily. The Chi Square procedure was not completed on the remaining groups because information regarding expected frequencies was not available; it was therefore not possible to compare our sample with the population on the dimensions of age, employment setting,etc.

Procedures

Data collection was accomplished through questionnaires delivered and returned by mail. Members of the APhA were first informed of the study through a notice in the association newsletter describing the survey and encouraging member

Table I

Sex of Respondents

| | N | % |
|---|---|---|
| Males | 334 | 40 |
| Females | 500 | 60 |

Table II

Observed and Expected Gender Distribution

| | Observed | Expected |
|---|---|---|
| Males | 334 | 375 |
| Females | 500 | 459 |

Chi Square=8.31,p<.01

Table III

Distribution by Age

| | N | % |
|---|---|---|
| 20-30 | 264 | 31 |
| 30-40 | 329 | 39 |
| 40-50 | 148 | 18 |
| 50-60 | 67 | 8 |
| 60 + | 2 | 4 |

Table IV

Distribution by Employment Setting

| | N | % |
|---|---|---|
| Hospital | 154 | 18 |
| Pharmacy Chain | 229 | 27 |
| Independent Pharmacy | 402 | 48 |
| Clinic | 20 | 2 |
| Other | 35 | 4 |

Table V

Distribution by Population

| | N | % |
|---|---|---|
| Incorporated, >1000 | 32 | 4 |
| 1000 - 2500 | 39 | 5 |
| 2500 - 5000 | 84 | 10 |
| 5000 - 10,000 | 82 | 10 |
| 10,000 - 40,000 | 89 | 11 |
| 40,000 - 100,000 | 80 | 10 |
| Over 100,000 | 419 | 51 |

Table VI

Distribution by Position

| | N | % |
|---|---|---|
| Manager | 329 | 39 |
| Assistant Manager | 99 | 12 |
| Staff | 412 | 49 |

Table VII

Distribution by Average Prescriptions Dispensed Daily

| | N | % |
|---|---|---|
| 0 - 50 | 205 | 25 |
| 50 - 100 | 343 | 41 |
| 100 - 150 | 285 | 34 |

participation. Questionnaires were then sent to all APhA members along with a cover letter explaining the study's purpose and requesting the pharmacists' cooperation (See Appendix A). Self-addressed, stamped envelopes were provided in order to maximize the rate of return.

## Instruments

The questionnaire used in this study consisted of four parts (See Appendix B). The first section concerned demographic information. The second section involved the Pharmacy Occupational Stress Scale (POSS) designed by Wolfgang (1983). The State-Trait Anxiety Inventory comprised Part 3 of the questionnaire, while the final section contained the Adult Irrational Ideas Inventory (Davies & Zingle, 1971). These instruments will now be described in greater detail.

### Background

Questions in this section concerned the respondents' sex, age, work location, as well as specific information about their current employment situation. Thus, the pharmacists were asked to describe the type of setting

they work in, their position at work, and the average number of prescriptions dispensed daily. In order to ensure anonymity, the respondents were asked to check the appropriate category rather than provide specific personal information (i.e., exact age).

Pharmacy Occupational Stress Scale (POSS)

The POSS was designed by Wolfgang (1983) to identify the most pertinent sources of stress for pharmacists. Fifty four job situations commonly encountered in the profession are described on the scale. Respondents rate each item in terms of its perceived frequency and stressfullness on a five-point Likert scale.

Reliability for the POSS was assessed by measuring internal consistency via Cronbach's Alpha (Wolfgang, 1983). Most factor scales were found to have acceptable reliability coefficients, ranging from 0.52 to 0.82. However, for each work environment measured - independent pharmacy, chain pharmacy, and hospital pharmacy - one particular factor scale was found to have low reliability. For independent pharmacists, the factor scale concerning "growth opportunity" had a reliability of 0.23. For respondents employed in chain pharmacies, the factor of "job ambiguity" had a reliability of 0.27; this factor's reliability was only 0.09 for hospital pharmacists. The author cautioned, therefore, that these factors be interpreted cautiously for these specific groups.

Because items on the POSS were derived from a review of the literature, the experiences of the author and his colleagues, and the input of a task force developed to study women in pharmacy, Wolfgang (1983) posits that the instrument's content validity is acceptable. Criterion validity was measured

by correlating perceived stress measured by the POSS with employment turnover rate. This relationship however, was found to be negligible. Wolfgang suggests that these results may be underestimates of the instrument's criterion validity, as the POSS measures present attitudes while job turnover rates reflect past work experiences. Although construct validity had not been established, Wolfgang reported an inverse relationship between perceived stress and job satisfaction. As perceptions of stress increased, job satisfaction decreased for all but hospital pharmacists. The author suggests that the scale may not accurately depict the hospital pharmacy environment other clear advantage that there are data available from previous studies making for the possibility of making comparisons with other groups of pharmacists.

State Trait Anxiety Inventory (STAI)

The STAI, developed by Spielberger (1968, 1977), has been the most frequently used measure of anxiety in research over the past decade (Spielberger, 1984). Approximately 225 studies are published each year which have used the STAI to investigate the phenomena of anxiety. As such, it has come to be considered as the international standard measure of anxiety (Robyak, 1986).

The STAI consists of two separate scales designed to measure state and trait anxiety. State anxiety involves the intensity of an individual's emotional state at certain times, while trait anxiety is meant to assess the frequency with which an individual experiences anxiety (Robyak, 1986). Each scale is comprised of 20 items rated on a four-point Likert scale. Instructions for the S-Anxiety scale (STAI Form Y-1) ask respondents to rate each item in terms

of how it corresponds to their feelings at work. These instructions differ from the original STAI; the alterations made, however, are in accordance with statements made in the test manual that allow researchers to alter instructions if a certain theme is to be focused on (Spielberger, 1983). On the T-Anxiety Scale, respondents are asked to rate each item in terms of how it relates to the way they feel in general.

Scores for each scale of the STAI can range from 20 to 80. Each particular item can have a score of one to four. For ten S-Anxiety items and eleven T-Anxiety items a score of four suggests high anxiety levels. On the remaining items, a high score is indicative of an absence of anxiety.

Reliability for the STAI was measured using alpha coefficients (KR-20 modified by Cronbach, 1951). In the normative sample, the S-anxiety alpha was found to be 0.87, and the T-Anxiety coefficient was 0.89. In terms of test-retest coefficients, reliability was reported to be 0.77 for the T-Anxiety scale. At 0.33, test-retest reliability was substantially lower for the S-Anxiety scale; however, this is to be expected in a scale designed to measure changes in anxiety over a series of situations.

In terms of validity, The STAI has been found capable of discriminating members of the general population from those hospitalized in psychiatric institutions for the treatment of anxiety. Concurrent validity was established by correlating the STAI T-Anxiety scale with the Taylor Anxiety Scale; the results yielded correlations of 0.85. Other information regarding the STAI's reliability and validity is available in the test manual (Spielberger, 1983), and the State Trait Inventory: A Complete Bibliography (Spielberger, 1984).

Adult Irrational Ideas Inventory (AII Inventory)

The AII Inventory (Davies & Zingle, 1970) is a revised version of the Irrational ideas (11) Inventory, developed by Zingle (1965) to measure the extent to which Ellis' (1962) irrational beliefs were held by adolescents. The AII Inventory is shorter than the original, and was designed for use with adults. It consists of 60 items rated on a five-point Likert scale, ranging from strongly disagree to strongly agree. In order to avoid a response set effect, the items were worded in such a fashion that strong agreement could be scored as high (5) or low(1).

The Kuder-Richardson split-half, and test-retest correlations were both used to establish the AII's reliability. The reliability coefficients ranged from 0.74 to 0.78. In order to ensure content validity, two judges familiar with Ellis' irrational beliefs were involved in item selection; those items on which they agreed were considered to be valid. In addition, Ellis reviewed the instrument, and an item analysis was performed. The assumption of construct validity was supported by the test's ability to statistically ($p < .01$) differentiate psychiatric patients and alcoholics from the normal population (Fox & Davies, 1971).

Compilation and Statistical Treatment of Data

After being returned, the questionnaires were checked, coded and then key-punched into a computer-readable format. Data were analyzed using the Statistical Package for the Social Sciences (SPSS-X, 1988). To judge the significance of results, the criterion level of $p < .05$ was employed. Statistical procedures used included frequency counts, Pearson r correlations and t-tests,

# CHAPTER 4

## RESULTS

In the following section, the goals and hypothesis made earlier are reiterated, then discussed in terms of statistical findings and conclusions. The results are presented tabularly, and significance is noted at the criterion levels $p < .05$ (denoted with one star in the tables), $p < .01$ (two stars) and $p < .001$ (three stars). Implications of these results will be addressed in Chapter 5.

### Descriptive Data

The first aim of this study was to examine descriptively the stress experienced by Alberta pharmacists. It was anticipated that scores obtained on the instruments would vary as a function of gender, age, employment setting, position and the number of prescriptions filled daily.

Mean stress scores obtained by respondents in four different samples are provided in Table VIII. According to these results, the pharmacists surveyed reported state and trait anxiety scores slightly higher than those of American working adults. Their scores were also higher than an Ends Group sample comprised of individuals characterized as being committed to a faith (Zingle, 1986), and considerably lower than a group of psychiatric patients.

Table VII

Comparison of Mean Stress Scores for Four Different Samples

| | Pharmacists | U.S. Adults | Ends Group"+" | Psych. Group"++" |
|---|---|---|---|---|
| State Anxiety | 37.2 | 35.5 | 32.2 | 52.8 |
| Trait Anxiety | 36.7 | 34.8 | 33.7 | 55.8 |
| POSS-A | 96.2 | --- | --- | --- |
| POSS-B | 68.9 | --- | --- | --- |
| All | 160.8 | --- | 152.4 | 184.2 |

"+"People who exhibit an "Ends Group" religious orientation, taken from Zingle (1986).

"++"Taken from Spielberger (1977).

It is not possible to compare the POSS scores obtained in this study with those in the original sample because mean scores are not provided by the scale's author (Wolfgang, 1983). One may, however, analyze individual items on the scale in order to examine which job situations are experienced as stressful by Alberta pharmacists, how often these situations occur, and how this compares to the sample used by Wolfgang in his preliminary study. Listed in Table IX are the ten situations most frequently rated as stressful by Alberta pharmacists; in Table XI are those situations rated stressful by Texas pharmacists. As can be seen by comparing the two tables, members of both groups perceive almost all of the same situations as stressful. Alberta pharmacists can be distinguished by their identification of inconsistently enforced job policies, and lack of acceptance by other health professionals, as stressful. It is interesting also to note that the most stressful situation - interruptions by people or telephone - was perceived as such by only slightly over one half of the respondents only.

In Table X the job situations perceived to be least stressful are presented. There appears to be even greater consensus among pharmacists on which items are not stressful than on which situations were rated as anxiety-provoking, as can be seen by comparing Tables IX and X..

The situations encountered most frequently by Alberta pharmacists are listed in Table XIII. When compared to Table XII it is clear that pharmacists in Alberta and Texas face similar job demands. That computer use appeared only on the Alberta list may be more reflective of changes over time than geographical differences; i.e., the practice of pharmacy has become increasingly computerized since 1983. The situations encountered least often are provided in Table XIV.

Table IX

10 Situations Perceived as Most Stressful* by Alberta Pharmacists

| | % |
|---|---|
| 1. Being interrupted by phone calls or people while performing other job duties. | 57 |
| 2. Experiencing job situations which compromise your ethical standards of practice. | 56 |
| 3. Having job duties which conflict with family responsibilities. | 47 |
| 4. Not being staffed with an adequate number of personnel on the job. | 47 |
| 5. Having non-pharmacists determine the way you must practice pharmacy. | 45 |
| 6. Not having enough time to practice pharmacy the way you think it should be practiced. | 44 |
| 7. Facing the threat of robbery. | 43 |
| 8. Identifying and dealing with forged prescriptions. | 37 |
| 9. Experiencing job policies and procedures which are not enforced consistently. | 33 |
| 10. Not being accepted as a health professional by other health professionals. | 32 |
| 10. Not being allowed to participate in making decisions about your job. | 32 |

* Situations rated as Fairly (3) to Extremely (4) Stressful.on the POSS-B

Table X

10 Situations Perceived as Least Stressful* by Alberta Pharmacists

| | % |
|---|---|
| 1. Providing printed directions for use by patients for their prescriptions. | 93.4 |
| 2. Conducting patient discharge counselling. | 88.0 |
| 3. Performing nursing home drug regimen reviews. | 87.6 |
| 4. Participating on CPR teams. | 87.1 |
| 5. Using a pharmacy computer system. | 81.8 |
| 6. Being directly involved with patient care on hospital nursing units. | 80.3 |
| 7. Not being accepted by the public as a business person. | 78.5 |
| 8. Not being accepted as a health professional by pharmaceutical sales representative. | 78.2 |
| 9. Having working relationships with other pharmacists. | 75.2 |
| 10. Waiting on payments from third-party payments. | 75.1 |

*Rated as *Not At All* (0) or *Slightly* (1) Stressful

Table XI

10 Situations Rated as Most Stressful by Texas Pharmacists

1. Being interrupted by phone calls or people while performing other job duties.
2. Facing the threat of robbery.
3. Not being staffed with an adequate number of personnel on the job.
4. Experiencing job situations which compromise your ethical standards of practice.
5. Having job duties which conflict with family responsibilities.
6. Not having enough time to practice pharmacy the way you think it should be practised.
7. Not being allowed to participate in making decisions about your job.
8. Having non-pharmacists determine the way you must practice pharmacy.
9. Having feelings that you are inadequately paid as a pharmacist.
10. Identifying and dealing with forged prescriptions.

Table XII

10 Situations Encountered Most Frequently by Texas Pharmacists

1. Preparing/dispensing prescriptions or drug orders.
2. Being interrupted by phone calls or people while performing other job duties.
3. Having working relationships with non-pharmacist employees.
4. Having working relationships with other pharmacists.
5. Supervising coworkers who are not pharmacists.
6. Contacting physicians for authorization of refills.
7. Keeping up with new developments in the field.
8. Counseling patients on health-related matters.
9. Selecting a therapeutically equivalent drug product other than that prescribed by the physician.
10. Having working relationships with nurses.

Table XIII

10 Situations Encountered Most Frequently By Alberta Pharmacists

| | % |
|---|---|
| 1. Preparing/dispensing prescriptions or drug orders. | 91.2 |
| 2. Being interrupted by phone calls or people while performing other job duties. | 84.6 |
| 3. Having working relationships with non-pharmacist employees. | 82.6 |
| 4. Using a pharmacy computer system. | 76.6 |
| 5. Contacting physicians for authorization of refills. | 74.1 |
| 6. Having working relationships with other pharmacists. | 71.6 |
| 7. Counseling patients on health related matters. | 70.4 |
| 8. Keeping up with new developments in the field. | 67.3 |
| 9. Answering patron questions about non-medical matters. | 59.7 |
| 10. Handling third party paperwork. | 55.5 |

*Encountered "Often" (3) to "Very Often" (4)

Table XIV

10 Situations Encountered Least Frequently by Alberta Pharmacists

| | % |
|---|---|
| 1. Participating on CPR teams. | 97.2 |
| 2. Preparing intravenous admixtures. | 88.3 |
| 3. Conducting patient discharge counsel ing. | 86.0 |
| 4. Preparing nursing home drug regimens. | 85.7 |
| 5. Talking to civic groups about drug-related issues. | 85.4 |
| 6. Not being accepted as a health professional by pharmaceutical sales representatives. | 83.7 |
| 7. Being directly involved with patient care on hospital nursing units. | 81.8 |
| 8. Providing in-service education programs to nursing personnel. | 78.4 |
| 9. Experiencing feelings of job insecurity. | 77.1 |
| 10. Facing the threat of robbery. | 75.3 |

*Encountered "Rarely" (1) to "Never" (0)

Prior to conducting the study, it was anticipated that stress ratings would differ in regards to demographic variables such as age, sex, work setting, position, and number of prescriptions filled daily . Tables XV to XXX contain average stress scores broken down into categories of sex, age, employment setting, administrative level, and number of prescriptions dispensed daily and Scheffe comparisons of significant differences. Each table will now be examined separately.

1.) Sex : In Table XV the mean stress scores for men and women in the sample are provided. According to these results, female pharmacists consistently demonstrated higher stress scores than did their male counterparts. These differences were significant in the cases of POSS-B ($t=-3.86$, $p<.001$), and All scores ($t=-4.05$, $p<.001$). There were, however, no significant differences in state and trait anxiety scores. It appears that although they report similar levels of state and trait anxiety, the female respondents encounter the situations listed by the POSS-A ($t=-4.88$, $p<.001$),more frequently, find them more stressful, and endorse more irrational beliefs than the male respondents.

Table XV

Mean Test Scores - Males and Females

| | Males | Females | t value | |
|---|---|---|---|---|
| State Anxiety | 36.5 | 37.6 | -1.91 | |
| Trait Anxiety | 36.0 | 37.1 | -1.62 | |
| POSS-A | 92.0 | 99.0 | -4.88 | *** |
| POSS-B | 64.7 | 73.1 | -3.86 | *** |
| All | 157.5 | 163.1 | -4.05 | *** |

ii.) Age: Mean stress scores for the various age groups represented in the sample are listed in Table XVI. A one-way analysis of variance was performed on the mean scores for each separate test; these findings are listed in the last column of the table. According to the results, members of the different age groups obtained significantly different scores on the POSS-A ($F=21.59$, $p<.001$), POSS-B ($F=11.13$, $p<.001$), and All ($F=3.34$, $p<.01$) . State and trait anxiety scores remained constant through the age groups, but both appear to peak in the 40-50 age range. Possible implications of this observation will be discussed in the following chapter.

Table XVI

Test Score Means - Age

| | 20-30 | 30-40 | 40-50 | 50-60 | 60+ | F |
|---|---|---|---|---|---|---|
| State Anxiety | 37.7 | 36.8 | 38.0 | 36.7 | 34.1 | 1.73 |
| Trait Anxiety | 36.8 | 36.8 | 37.1 | 35.3 | 36.4 | 0.35 |
| POSS-A | 101.3 | 98.4 | 92.1 | 84.1 | 76.7 | 21.59*** |
| POSS -B | 75.4 | 72.3 | 64.8 | 56.7 | 48.1 | 11.25*** |
| All | 163.2 | 161.6 | 158.1 | 155.3 | 157.1 | 3.34** |

In order to determine which specific age groups differ, a Scheffe post-hoc pairwise comparison was performed on the tests for which a significant difference was indicated (i.e., the POSS-A, POSS-B, and All). The Scheffe was chosen over other paired comparison tests such as the Tukey because it is more conservative, and hence more likely to reveal definite differences. Table XVII depicts the results obtained on the POSS-A; those groups which were found to be significantly different at the $p< .05$ level are denoted with an asterisk (*). It can be seen that the younger pharmacists (i.e., those in the 20 - 30 and 30 - 40 year age range) obtained significantly higher POSS-A scores than their older colleagues.

Table XVII

Scheffe Post-Hoc Pairwise Contrasts:

Differences in POSS-A Scores for Age Groups

| Mean | Group | 20-30 | 30-40 | 40-50 | 50-60 | 60+ |
|---|---|---|---|---|---|---|
| 101.3 | 20-30 | | | * | * | * |
| 98.4 | 30-40 | | | * | * | * |
| 92.1 | 40-50 | | | | | * |
| 84.1 | 50-60 | | | | | |
| 76.7 | 60+ | | | | | |

(*) denotes pairs of groups significantly different at the .05 level.

Scheffe analyses were also performed on the age groups using POSS-B and All scores. As can be seen from examining Table XVIII, 20 to 30 year old pharmacists reported significantly higher POSS-B scores than pharmacists 40 years and older. Members of the 30-40 years group obtained significantly higher POSS-B scores than did pharmacists in the 50-60 and 60+ groups. The Scheffe comparison analyzing differences in All scores yielded no significant findings. From the results obtained in this section, it can be concluded that younger pharmacists do experience more stress from specific job situations than older pharmacists. They also appear to encounter these situations more frequently. Although there are significant differences in the endorsement of irrational beliefs across the age groups, no particular group can be singled out as being more or less irrational than any other. Finally, no differences were found in regard to general state or trait anxiety. Interpretations of these findings will be offered in the following chapter.

Table XVIII

Scheffe Post-Hoc Pairwise Contrasts:

Differences in POSS-B Scores for Age Groups

| Mean | Group | 20-30 | 30-40 | 40-50 | 50-60 | 60+ |
|---|---|---|---|---|---|---|
| 75.4 | 20-30 | | | * | * | * |
| 72.3 | 30-40 | | | | * | * |
| 64.8 | 40-50 | | | | | |
| 56.7 | 50-60 | | | | | |
| 48.1 | 60+ | | | | | |

iii.) Work Setting: Stress scores for pharmacists working in different employment settings - hospitals, chain pharmacies, independently owned pharmacies, clinics, and unspecified settings - are listed in Table XIX ndividuals working in various settings obtained significantly different state anxiety scores ($F=2.54$, $p<.05$), POSS-A scores ($F=5.74$, $p<.01$), and POSS-B scores ($F=3.47$, $p<.05$). No differences were demonstrated on trait anxiety or All scores.

Table X1X

Test Score Means - Setting

| | Hosp. | Chain | Indep. | Clinic | Other | F |
|---|---|---|---|---|---|---|
| State Anxiety | 38.2 | 38.2 | 36.4 | 35.1 | 36.6 | 2.54* |
| Trait Anxiety | 36.6 | 37.1 | 36.6 | 36.3 | 36.0 | 0.18 |
| POSS-A | 101.4 | 98.4 | 93.2 | 98.2 | 93.5 | 5.74* |
| POSS-B | 77.1 | 70.8 | 66.9 | 62.2 | 68.3 | 3.47** |
| All | 159.4 | 162.7 | 160.5 | 158.2 | 159.0 | 0.881 |

In order to detect differences between pairs of groups, Scheffe analyses were once again performed. No two settings were found to be significantly different in terms of state anxiety scores. There were, however, distinctions in POSS-A and POSS-B scores, as illustrated in Tables XX and XXI respectively. Both hospital and chain pharmacists obtained significantly higher POSS-A scores than did independent pharmacists. Hospital pharmacists also demonstrated higher POSS-B scores than independent pharmacists. It appears, therefore, that hospital and chain pharmacists encounter the situations listed on the survey more frequently than do independent pharmacists; in addition, hospital pharmacists perceive more stress than do independent pharmacists.

Table XX
Scheffe Post-Hoc Pairwise Contrasts:
Differences in POSS-A Scores for Setting Groups

| Mean | Group | Hosp. | Chain | Indep. | Clinic | Other |
|---|---|---|---|---|---|---|
| 101.4 | Hosp. | | | * | | |
| 98.4 | Chain | | | * | | |
| 93.2 | Indep. | | | | | |
| 98.2 | Clinic | | | | | |
| 93.5 | Other | | | | | |

(*) Denotes pairs of groups significantly different at the .05 level.

Table XXI
Scheffe Post-Hoc Pairwise Contrasts:
Differences in POSS-B Scores for Setting Groups

| Mean | Group | Hosp. | Chain | Indep | Clinic | Other |
|---|---|---|---|---|---|---|
| 77.1 | Hosp. | | | * | | |
| 70.8 | Chain | | | | | |
| 66.9 | Indep. | | | | | |
| 62.2 | Clinic | | | | | |
| 68.3 | Other | | | | | |

(*)Denotes pairs of groups significantly different at the .05 level.

iv.) Position: Stress scores were also analyzed according to the administrative position held by the respondents. Mean scores obtained by managers, assistant managers, and staff are presented in Table XXII. Significant differences were indicated in state anxiety ($F=4.14$, $p<0.5$), POSS-A ($F=4.15$, $p<.05$), and POSS-B ($=5.77$, $p<.01$) scores.

Table XXII

Test Score Means - Position

| | Managers | Assist. Man. | Staff | E |
|---|---|---|---|---|
| State Anxiety | 37.2 | 35.0 | 37.7 | 4.14* |
| Trait Anxiety | 37.0 | 35.7 | 36.8 | 0.64 |
| POSS-A | 93.8 | 99.0 | 97.5 | 4.15* |
| POSS-B | 65.4 | 70.5 | 73.1 | 5.77** |
| All | 159.0 | 160.8 | 162.3 | 2.67 |

To further examine significant differences between managers, assistant manager, and staff pharmacists, Scheffe comparisons were performed on the State anxiety, POSS-A and POSS-B scores. These results are presented in Tables XXIII through XV. The tables illustrate that:

i.) staff pharmacists obtained significantly higher state anxiety scores than assistant managers; and

ii.) staff pharmacists obtained higher POSS-A and POSS-B scores than managers.

Table XXIII

Scheffe Post-Hoc Pairwise Contrasts:

Differences in State Anxiety for Positions

| Mean | Group | Managers | Assistant Managers | Staff |
|---|---|---|---|---|
| 37.2 | Managers | | | |
| 34.9 | Assist. Man. | | | |
| 37.7 | Staff | | | |

Table XXIV

Scheffe Post-Hoc Pairwise Contrasts

Differences in POSS-A Scores for Positions

| Mean | Group | Managers | Assistant Managers | Staff |
|---|---|---|---|---|
| 93.8 | Managers | | | |
| 99.0 | Assist. Man. | | | |
| 97.5 | Staff | | | |

Table XXV

Scheffe Post-Hoc Pairwise Contrasts

Differences in POSS-B Scores for Positions

| Mean | Group | Managers | Assistant Managers | Staff |
|---|---|---|---|---|
| 65.4 | Managers | | | |
| 70.5 | Assist. Man. | | | |
| 73.1 | Staff | | | |

v.) Average number of prescriptions dispensed daily: Mean stress scores for pharmacists who dispense an average of zero to 50, 50 to 100, and 100 to 150 prescriptions per day are listed in Table XXVI. Of all the factors examined to this point (i.e., sex, age, employment setting and position), none have shown the variability evident in this table: significant differences were found in state anxiety ($F=4.47$, $p<.05$), trait anxiety ($F=3.08$, $p<.05$), POSS-A ($F=30.18$, $p<.001$), and POSS-B ($F=5.47$, $p<.001$) scores. The only instrument on which no difference appeared was the AII.

The direction of differences between groups are interesting to observe from the table as they run counter to what might be expected. For instance, state anxiety scores are lowest in the mid-range of prescriptions filled, while trait anxiety is highest when this aspect of workload is the lowest. It is not surprising that the frequency with which POSS-A items were encountered increased with the number of prescriptions filled; the degree to which stress was perceived by respondents also increased with workload. Finally, although the differences were not found to be significant, irrationality scores were highest in the 100 to 150 daily prescription range.

Table XXVI

Test Score Means - Prescriptions Dispensed Daily

| | 0-50 | 50-100 | 100-150 | F |
|---|---|---|---|---|
| State Anxiety | 38.1 | 36.1 | 37.8 | 4.47* |
| Trait Anxiety | 38.1 | 36.0 | 36.7 | 3.08* |
| POSS-A | 89.8 | 94.5 | 103.4 | 30.18*** |
| POSS-B | 67.5 | 67.1 | 74.7 | 5.47** |
| AII | 160.7 | 159.4 | 162.5 | 1.94 |

According to the results of Scheffe comparisons, pharmacists who fill fewer than 50 prescriptions a day report more state and trait anxiety than those who fill between 50 and 100 (see Tables XXVII and XXX). Pharmacists with higher dispensation rates experience more stress particular to the practice of pharmacy (as indicated by POSS-B scores), and encounter more POSS items than those with a smaller workload.

Table XXVII

Scheffe Post-Hoc Pairwise Contrasts:

Differences in State Anxiety for Prescription Dispensation Rates

| Mean | Group | 0-50 | 50-100 | 100-150 |
|---|---|---|---|---|
| 38.1 | 0-50 | | • | |
| 36.1 | 50-100 | | | |
| 37.8 | 100-150 | | | |

Table XXVIII

Scheffe Post-Hoc Pairwise Contrasts:

Differences in Trait Anxiety for Prescription Dispensation Rates

| Mean | Group | 0-50 | 50-100 | 100-150 |
|---|---|---|---|---|
| 38.1 | 0-50 | | • | |
| 36.0 | 50-100. | | | |
| 36.7 | 100-150 | | | • |

Table XXIX

Scheffe Post-Hoc Pairwise Contrasts:

Differences in POSS-A for Prescription Dispensation Rates

| Mean | Group | 0-50 | 50-100 | 100-150 |
|---|---|---|---|---|
| 89.8 | 0-50 | | | |
| 94.5 | 50-100. | • | | |
| 103.2 | 100-150 | • | • | • |

Table XXX

Scheffe Post-Hoc Pairwise Contrasts:

Differences in POSS-B for Prescription Dispensation Rates

| Mean | Group | 0-50 | 50-100 | 100-150 |
|---|---|---|---|---|
| 89.8 | 0-50 | | | |
| 94.5 | 50-100. | | | |
| 103.2 | 100-150 | * | * | * |

Conclusion: The expectations that stress scores would vary in regards to demographic variables was supported. Groups who reported high stress scores included women, young pharmacists, and pharmacists working in hospitals and chain pharmacies. Significant differences were also found in terms of administrative position and the number of prescriptions dispensed daily. The differences will be explored in further detail in the next chapter.

Specific Hypothesis:

The second purpose of the current study was to measure the relationship between the amount of stress being experienced by pharmacists and the degree to which irrational beliefs are endorsed. The hypothesis offered earlier will now be discussed.

> There will be a positive relationship between state anxiety, trait anxiety, POSS-B scores and irrational belief scores.

A Pearson correlation coefficient matrix was used to determine the existence of a positive relationship between anxiety and stress as reported in STAI and POSS-B scores and irrational ideas. The results obtained are presented in Table XXXI The correlation between state anxiety and the endorsement of irrational ideas, 0.49, is significant ($p<.0005$, one tail). The relationship between trait anxiety and irrational beliefs is also strong at 0.63 ($p<.0005$, one tail). Thus, the more irrational beliefs are endorsed, the more general and specific anxiety is experienced. According to the information in Table XXXI, adherence to irrational beliefs is also highly correlated to the stress

experienced from situations specific to pharmacy: the correlation between All and POSS-B scores is .42 (P<.0005). Due to the strength of the correlations found between All scores and state anxiety, trait anxiety, and pharmacy-related stress scores, it can be concluded that there is a positive relationship between stress and irrational belief scores; the hypothesis is supported by the data.

Table XXXI

Pearson Correlation Coefficients

| | S Anxiety | T Anxiety | POSS-B | All |
|---|---|---|---|---|
| State Anxiety | 1.00 | .77*** | .53*** | .49*** |
| Trait Anxiety | | 1.00 | .49*** | .63*** |
| POSS-B | | | 1.00 | .42*** |
| All | | | | 1.00 |

Summary Of Conclusions

From the results obtained it can be concluded that:

1. The stress experienced by Alberta pharmacists is comparable to that reported by an American sample.
2. The stress experienced varies in accordance to diiferences in gender, age, work setting, administrative position and the average number of prescriptions dispensed daily.
3. There is a positive relationship between the amount of stress and anxiety experienced and the extent to which irrational beliefs are endorsed.

# CHAPTER 5

## DISCUSSION

This study had two primary objectives. The first was to examine the job-related stress experienced by pharmacists in Alberta. As was predicted on the basis of other studies, the pharmacists surveyed did show evidence of stress: their scores on scales measuring both the intensity and frequency of stress responses were found to be slightly higher than those of the average working American. The pharmacy-specific situations experienced as most stressful included interruptions by customers and telephone calls, having one's ethical standards compromised, and job duties that conflict with family responsibilities. The amount of stress reported varied with gender, age, place of employment, position and workload of the pharmacists responding.

The second main purpose of this thesis was to study the relationship between the amount of stress perceived by Alberta pharmacists and the extent to which they endorse irrational beliefs. It was hypothesized that adherence to irrational beliefs would be positively correlated to anxiety scores and pharmacy- specific stress scores reported. This was in fact found to be the case.

Previous research done on stress in pharmacy created several expectations in the present study. It was anticipated, for example, that Alberta pharmacists would report inordinate levels of stress both generally and specifically in relation to their jobs. While the respondents reported that they do experience stress at home and at work, the ratings were not as high as initially expected. This was especially true in regard to the stress ratings given to specific situations that commonly occur in the practice of pharmacy. For example, the job situation most frequently identified as being stressful- being interrupted by telephones calls or customers- was rated as such by only 57% of the respondents. It follows that 43% of the pharmacists surveyed- almost half - do not find interruptions to be stressful. This level of

agreement seems to be quite low, suggesting that not all pharmacists find the situations listed to be stressful. Therefore, reports in the literature of stress in pharmacists invariably resulting from the situations to which they are exposed do not appear to be entirely accurate. Although many pharmacists find their jobs to be stressful, many do not share this view; it appears therefore, that individual differences may account for more of the stress experienced than the characteristics of the profession alone.

Of all the research done on the stress experienced by pharmacists, the most concise and detailed has been that done by Wolfgang (1983) and Wolfgang Kirk & Shepherd (1985). At the onset of the present study it was not clear whether an Alberta sample would generate results similar to those obtained by Wolfgang in Texas, or if it would more closely approximate the situation in Manitoba (Walker, 1988). It will be recalled that Texas pharmacists found interruptions, inadequate staffing, conflicts between family and job responsibilities, third party paperwork and low pay to be the most stressful aspects of their jobs. Pharmacists in Manitoba, on the other hand, identified robberies, physician inconsideration, keeping up with prescription orders and impatient customers as the most stress-invoking situations in their jobs. In fact, situations perceived as stressful by pharmacists in Alberta showed more of a resemblance to the Texas than Manitoba data. This does not necessarily mean that the pharmacy situations in Alberta and Texas are more similar than those in Alberta and Manitoba however. One reason this may have occurred is that use of the same instrument increases the likelihood of greater similarity in results; if the Manitoba sample had the same situations available to rate, these results might well have been more similar to those obtained in the present study. It seems then that it is appropriate in this type of research to use Wolfgang's Pharmacy Occupational Stress Scale (POSS) with both American and Canadian samples. A consideration of equal importance is sample size: the data from Manitoba were based

on so small a sample that its generalizability is extremely limited. In fact, if it were not the only Canadian data available, it would not have received anywhere near the coverage it has been given by this review.

A review of the literature would also lead one to expect that women involved in the pharmacy profession would experience more stress than would men (Noel, Hammel & Bootman, 1982; Quant & McKercher, 1982; Walker, 1988). This hypothesis was borne out in the present study: women consistently reported encountering the listed pharmacy situations more frequently, finding them more stressful, and endorsing more irrational beliefs. This may have occurred due to the fact mentioned earlier in the chapter: women must deal with both the stressful aspects of their jobs, plus the pressures involved in raising a family and maintaining a home, to a much greater extent than do men. It is also possible that rather than being more stressed, women are simply more interested in and aware of stress than men. This notion would explain the male/female response rate that occurred in the study - 60% of the respondents were women. A workshop held in October 1988 on stress in the practice of pharmacy was also attended mainly by women. These male\female ratios are not reflective of the gender distribution of pharmacists practicing in the province. Finally, age may be a mediating factor in the relationship between stress and gender. It has been demonstrated that perceptions of stress decrease with age (Ciaccio et al, 1982). Members of the profession have noted an increase in the number of women entering the pharmacy field in recent years. Therefore, the higher stress levels reported may reflect the influence of age and\or experience on stress rather than gender per se.

It was also anticipated as has already been mentioned, that pharmacists in the younger age groups would report experiencing more stress than their older colleagues. This was the case for pharmacy-specific stress. It is not clear, however, whether age is the major factor operating here, or if it is being confounded

by the effects of experience. It seems reasonable to assume that as one gains more experience dealing with certain situations, they become increasingly manageable and thereby less stressful. An unexpected finding was that there was no significant differences between the age groups on their state and trait anxiety scores. Equally unanticipated was the fact that those in the 40 - 50 year age range would exhibit the highest anxiety scores on both scales. This may reflect the development stage of "midlife crisis", however it is important to keep in mind that the differences were not significant statistically. There also appeared to be a general decline in irrationality scores as the groups increased in age; this finding also lacked statistical significance however. Unrealistic goals of achievement and perfection may eventually fall by the wayside and be replaced by more attainable asperations. Therefore, it may be that youth is not solely responsible for the inflated stress and irrationality scores obtained; inexperience seems to be a more plausible culprit. It would appear from the results obtained here that the relationship between the factors of age, experience, pharmacy-specific stress, general anxiety, and irrational thinking may be too complex and intertwined to be fully appreciated at the present time.

The results obtained in regard to stress scores from employees in different occupational settings are difficult to interpret. Previous research has not put much emphasis on comparing the stress experienced by members of different work settings. Because the main differences between the groups were in the POSS scores, it seems possible that the findings have more to do with the questionnaire than the individuals themselves. That is, because the hospital and chain pharmacists obtained higher scores than the other groups on the frequency with which they encountered the situations listed by the survey, perhaps it is not surprising that they also obtained higher stress ratings.. The instrument may simply fit the experiences of pharmacists working in hospitals and chain pharmacies better than the other

employment settings. This was not found to be the case for the sample on whom the scale was developed, however; in fact Wolfgang (1983) suggested that the POSS may not accurately depict the hospital pharmacy environment. The reasons behind the discrepancy between the original sample in Texas and present Alberta sample is not clear at this time and therefore request further research.

The staff pharmacists in our sample reported encountering the situations listed more frequently, and finding them more stressful than did their managers. It may be that the POSS is more congruent with the job tasks of staff pharmacists, and does not reflect the administrative duties that managers must perform. It is also possible that the effects of age and experience discussed above are operating here as well: staff pharmacists are more likely to be in the younger age groups, while managers are probably older. Finally, the differences may be related to economic status, with those in a higher economic bracket (i.e. managers) presumably experiencing fewer financial concerns and therefore less stress in general. Job security would also not be an issue at this later stage in one's career.

Workload is often cited as a major source of job-related stress. Whether it be quantitative (i.e., too many tasks) or qualitative (i.e., beyond one's abilities), the employee who experiences work overload has been identified by the literature as one who is prone to occupational stress (Cooper & Marshall, 1976). The present study used the average number of prescriptions dispensed daily as an indicator of workload. According to our results pharmacists who dispense more drug orders per day also experience more stress in regard to situations specific to the profession. However, it was the pharmacists who fill the fewest prescriptions who reported the highest state and trait anxiety. Therefore, it may be just as stressful having little to do as it is being very busy. In keeping with the main premise of our study, it appears that workload itself does not determine the experience of stress. Instead, it seems that an individual's beliefs about job demands predict whether the

situation is perceived as stressful or not. This seems to occur whether the demands be unrealistically high or too low to offer challenge and stimulation Or, it might be\that those pharmacists who fill fewer prescriptions work in outlets that require the pharmacists to do many other jobs besides filling prescriptions. Obviously, at this time we do not have an explanayion for this paradoxical finding.

The primary hypothesis of the present study was that measures of stress would be positively related to measures of irrationality. This expectation was met. Although this finding is not strong in terms of practical significance it does provide support for the general premise that pharmacist stress is closely tied to irrationality and that there is a link between state and trait anxiety and irrational thinking. This finding also reflects well on the cognitive approach in general.

The main proposition supported by our results is that when considering why pharmacy is stressful for some pharmacists, one should include some attention to the explanatory function of irrational beliefs. This is not, however, to say that individual pharmacists are to be blamed for the stress they experience, nor should they suffer losses of self-esteem or feel like failures, as has been implied by some reasearchers (i.e, Maslach & Jackson, 1982). It will be recalled that Maslach and Jackson believe that job stress and burnout are directly related to factors within the social structure and work environment, and have nothing to do with personal traits or cognitions. What these authors do not recognize, however, is that by holding individuals responsible for their feelings of being stressed (as in the approach suggested by this study) they are given the responsibility and power to stop these experiences. Therefore, rather than being demeaning, the RET perspective on job-related stress actually empowers stressed individuals by teaching them to overcome their irrationality, minimize the stress experienced and to adopt a more healthy, functional approach to life.

Much of the research in occupational stress to date has used a traditional model of stress focusing on the stimulus. As was discussed earlier, the assumption underlying this model is that environmental stimuli, such as interruptions, demands for accuracy and contact with people lead directly to the experience of stress. It follows that any attempts to alleviate the stress experienced at work must alter the environment: interruptions must decrease, requirements for accuracy be made less stringent, human contact minimized. However, there are several flaws in this linear model of stress. Applying its logic, exposure to a certain set of circumstances such as those cited above results directly in stress. What is not explained is why stress does not affect every member of the profession equally. The present study found consensus on which aspects of pharmacy are stressful to be quite low. We must question why, if all the respondents were exposed to the same situations, only one half to one third found certain ones to be stressful.

The solutions to occupational stress offered by a stimulus model, as alluded to earlier, are also problematic in that they seem unrealistic and unattainable. It does not seem possible, or even desirable, to lower the criteria for accuracy that pharmacists must meet, for instance. Similarly, it is never made clear how the case loads of nurses, social workers or pharmacists could realistically be decreased without disabling the necessary services they provide.

The cognitive model of stress is believed to offer a much more viable approach to the examination and possible reduction of occupational stress. The finding that the level of stress experienced by the pharmacists surveyed was related to their tendancy to hold irrational beliefs is consistent with Ellis' A-B-C theory. That is, according to this view, the stress experienced by the pharmacists was caused not by the unpleasant aspects of their profession (i.e., Activating Events), but rather by their Beliefs about the events. Thus those individuals who endorse irrational

beliefs tend to experience more stress. As was stated in the introduction of this study,

> while there may be many characteristics of the pharmacy profession which have the potential to invoke stress, whether or not stress is actually experienced may be influenced by how each pharmacist chooses to interpret each situation. (p.5).

Finally, adopting an RET approach has many implications for treatment of occupational stress (Anderson, 1988). Some traditional methods of stress management have been discussed previously, i.e., those that propose to change the environment. How these proposals are to be implemented is rarely, if ever discussed. Another popular stress management approach focuses on coping mechanisms such as relaxation, exercise, time management and so on. An RET approach would be based on the premise that the world is full of unpleasant, undesirable, and uncomfortable situations. By teaching individuals to think more rationally, the realities of the world would become more acceptable and expectations would be more in line with what is possible, thereby substantially decreasing the stress experienced. Because the other approaches have many positive aspects, the most comprehensive stress management program would implement all three. Thus, those situations which are amenable to change could be altered, individuals could be encouraged to adopt lifestyles more conducive to general well-being, and belief systems could be introduced which would decrease the levels of stress being experienced.

Using RET to study, explain and combat occupational stress seems to be a promising direction to move towards. Other suggestions for future research are offered later in this chapter. First, limitations of the present study will be discussed.

## Limitations

The primary limitation of the present study is its reliance on correlational analysis, and subsequent restrictions in interpretation. While the demonstrated relationships proved to be strong, it is not possible to make any assumptions of causality. Therefore it is not known if any mediating factors were responsible for the results obtained.

Any study that uses a mailout questionnaire is limited by the confines of sampling. The issue of how those individuals who completed the survey differ from those who did not must always be called into question. It is not clear whether:

a.) the pharmacists who responded are more interested in stress than those who did not;

b.) the respondents experience more stress than the non-respondents;

c.) the pharmacists who did not complete the questionnaire perceived our request as yet another demand that would be too stressful to comply with.

We cannot be sure, therefore, if our results are overestimates, underestimates, or accurate indicators of the stress experienced by Alberta pharmacists. However, given the number of responses received (845), the sample should represent the population fairly closely.

The instruments chosen are also somewhat problematic. This was particularly true of the STAI which was designed to measure anxiety rather than stress. It was chosen for this study on the basis of its wide acceptability, and high levels of reliability and validity; there was no measure of stress known to the writer that was comparable on these standards. However, while the concepts of stress and anxiety are very closely related, they are not necessarily synonymous. Therefore, what was gained by the reliability and validity of the STAI may have been lost in precision of definition.

Another limitation of the present study is its focus on age rather than experience as a factor in predicting stress. Although the relationship between age and stress experienced was found to be strong, in hindsight it seems that the time spent in the profession might have been a more meaningful predictor. By focusing on experience rather than age, factors such as perceptions of competence, acquired expertise, and self esteem could also have been examined. It has been noted by a long-standing member of the profession, however, that there may be no actual difference between age and experience, as the age range of students entering the faculty is quite homogenous - i.e., approximately 20 years of age (A.Friesen, personal communication, June 1989).

## Future Research

It would be interesting to replicate the present study addressing the issues listed previously. That is, if a researcher were to find a reliable and valid instrument designed specifically to measure stress rather than anxiety, and went to an experimental design a clearer picture of whether or not there is a causal relationship between stress and irrational beliefs would likely emerge.

It is recommended that future research in occupational stress be more cognitive in nature. The importance of cognitions in the experience of stress has been demonstrated. By continuing to focus on environmental stimuli rather than individual perceptions, the picture of job-related stress will never be complete and prevention will not live up to its full potential.

An interesting avenue of research to pursue would be a developmental approach to occupational stress, such as that introduced by Suran and Sheridan (1985). There seems to be a definite trend in perceptions of stress decreasing with age. The endorsement of irrational beliefs also decreases substantially in older age groups. The answers to why this occurs may lie in the necessary stages of

professional development which must be successfully resolved in order to continue growing. It also seems likely that holding irrational beliefs would severely limit forward growth. In any case, this seems to be a question that warrants further investigation.

## Summary

The purposes of this study were to examine the job-related stress experienced by Alberta pharmacists, and measure the extent to which this stress was related to the endorsement of irrational beliefs. The pharmacists surveyed did report experiencing stress on the job which varied significantly with gender, age, work setting, position and the number of prescriptions dispensed daily. Scores on a measure of irrational beliefs (the AII) were highly correlated with measures of state anxiety ($r=.49$, $P<.0005$), trait anxiety ($r=.63$, $p<.0005$), and stress experienced from specific pharmacy situations ($r=.42$, $p<.0005$). However, the exact nature of this relationship is not known, as there might well to be unidentified intervening variables operating. It is suggested that further research in occupational stress focus on more cognitive variables such as irrational beliefs and less on environmental factors.

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# STUDY OF STRESS AND PHARMACY

University of Alberta

The following questions are designed to assess the amount of stress, and reasons for stress experienced by pharmacists in Alberta. Please answer all the questions frankly and honestly. All responses are **CONFIDENTIAL**. Your name is **not** required.

Joint project of the Department of Educational Psychology, Faculty of Education, and the Division of Continuing Pharmacy Education, Faculty of Pharmacy and Pharmaceutical Sciences.

Funding for this project was provided by The Upjohn Company of Canada.

## Part One

Background

Answer the following questions by checking the answer that applies to you.
Answer all the questions with one response only.
Please erase any errors that you make.

1. Which age group do you belong to?

   20 - 30 ___ 50 - 60 ___
   30 - 40 ___ 60+ ___
   40 - 50 ___

2. Sex

   Male ___
   Female ___

3. In which of the following settings are you presently employed?

   Hospital ___
   Pharmacy Chain ___
   Independently Owned Pharmacy ___
   Clinic ___
   Other (please specify) _____

4. What is the population of the centre in which you work?

   Incorporated, under 1000 ___
   1000 to 2500 ___
   2500 to 5000 ___
   5000 to 10,000 ___
   10,000 to 40,000 ___
   40,000 to 100,000 ___
   Over 100,000 ____

5. What is your position at work?

   Manager ___
   Assistant Manager ___
   Staff ___

6. Give the average number of prescriptions which you dispense each day.

   0 to 50 ____
   50 to 100 ____
   100 to 150 ____

## Part Two

The following series of questions concern various job situations which may occur in pharmacy. Circle the appropriate number for each of the two questions below (one question on the LEFT and one question on the RIGHT of each JOB SITUATION in the centre column).

Please answer the question on the left as to how often you deal with each job situation in your current or most recent primary pharmacy job. The numbers represent a continuum which ranges from NEVER (0) at one end to VERY OFTEN (4) at the other end.

Please answer the questions on the right as to how stressful each situation is for you on the average. The numbers represent a continuum which ranges from NOT AT ALL (0) to EXTREMELY (4) at the other end.

| IN YOUR CURRENT PRIMARY JOB, HOW OFTEN DO YOU DEAL WITH EACH OF THE SITUATIONS LISTED IN THE CENTRE COLUMN? | | ON THE AVERAGE, HOW STRESSFUL IS EACH OF THE SITUATIONS LISTED IN THE CENTRE COLUMN FOR YOU? |
|---|---|---|
| Never Rarely Sometimes Often Very Often | JOB SITUATION | Not At All Slightly Moderately Fairly Extremely |
| 0 1 2 3 4 | Preparing compounded prescriptions. | 0 1 2 3 4 |
| 0 1 2 3 4 | Preparing intravenous admixtures. | 0 1 2 3 4 |
| 0 1 2 3 4 | Preparing/dispensing prescriptions or drug orders. | 0 1 2 3 4 |
| 0 1 2 3 4 | Counseling patients on health related matters. | 0 1 2 3 4 |
| 0 1 2 3 4 | Answering patron questions about non-medical matters (i.e., approving customer checks or directing patrons to other areas of the pharmacy/hospital). | 0 1 2 3 4 |
| 0 1 2 3 4 | Using a pharmacy computer system. | 0 1 2 3 4 |
| 0 1 2 3 4 | Providing printed directions for use by patients for their prescriptions (e.g., SIM's). | 0 1 2 3 4 |
| 0 1 2 3 4 | Waiting on payments from third-party programs. | 0 1 2 3 4 |
| 0 1 2 3 4 | Handling third-party paperwork. | 0 1 2 3 4 |
| 0 1 2 3 4 | Selecting a therapeutically equivalent drug product other than that prescribed by the physician (Drug Product Selection). | 0 1 2 3 4 |
| 0 1 2 3 4 | Participating on CPR teams. | 0 1 2 3 4 |

| | Strongly disagree | Disagree | Undecided | Agree | Strongly agree |
|---|---|---|---|---|---|
| 3. The best way to teach a child right from wrong is to spank him when he's wrong. | 1 | 2 | 3 | 4 | 5 |
| 4. I must "keep my head" when things go wrong. | 1 | 2 | 3 | 4 | 5 |
| 5. I think I am getting a fair deal in life. | 1 | 2 | 3 | 4 | 5 |
| 6. I worry about eternity. | 1 | 2 | 3 | 4 | 5 |
| 7. I am happiest when I am sitting around doing little or nothing. | 1 | 2 | 3 | 4 | 5 |
| 8. I prefer to be independent of others in making decisions. | 1 | 2 | 3 | 4 | 5 |
| 9. If a person is ill-tempered and moody, he will probably never change. | 1 | 2 | 3 | 4 | 5 |
| 10. I get very upset when I hear of people (not close relatives or friends) who are very ill. | 1 | 2 | 3 | 4 | 5 |
| 11. Crime never pays. | 1 | 2 | 3 | 4 | 5 |
| 12. My family and close friends do not take enough time to become acquainted with my problems. | 1 | 2 | 3 | 4 | 5 |
| 13. People who do not achieve competency in at least one area are worthless. | 1 | 2 | 3 | 4 | 5 |
| 14. We are justified in refusing to forgive our enemies. | 1 | 2 | 3 | 4 | 5 |
| 15. I frequently feel unhappy with my appearance. | 1 | 2 | 3 | 4 | 5 |
| 16. I feel that life has a great deal more happiness than trouble. | 1 | 2 | 3 | 4 | 5 |
| 17. I worry over possible misfortunes. | 1 | 2 | 3 | 4 | 5 |
| 18. I often spend more time trying to think of ways of getting out of doing something than it would take to do it. | 1 | 2 | 3 | 4 | 5 |
| 19. I tend to look to others for the kind of behavior they approve as right or wrong. | 1 | 2 | 3 | 4 | 5 |
| 20. Some people are dull and unimaginative because of defective training as a child. | 1 | 2 | 3 | 4 | 5 |
| 21. Helping others is the basis of life. | 1 | 2 | 3 | 4 | 5 |

| | Strongly disagree | Disagree | Undecided | Agree | Strongly agree |
|---|---|---|---|---|---|
| 22. School promotions should be for intellectual merit alone. | 1 | 2 | 3 | 4 | 5 |
| 23. It is very important to me when I do a good job to be praised. | 1 | 2 | 3 | 4 | 5 |
| 24. I find it difficult to take criticism without feeling hurt. | 1 | 2 | 3 | 4 | 5 |
| 25. It is terribly upsetting the way some students seem to be constantly protesting about one thing or the other. | 1 | 2 | 3 | 4 | 5 |
| 26. It is impossible at any given time to change one's emotions. | 1 | 2 | 3 | 4 | 5 |
| 27. I tend to worry about possible accidents and disasters. | 1 | 2 | 3 | 4 | 5 |
| 28. I need to learn how to keep from being too assertive or too bold. | 1 | 2 | 3 | 4 | 5 |
| 29. To cooperate with others is better than doing what you feel should be done. | | | | | |
| 30. Sympathy is the most beautiful human emotion. | 1 | 2 | 3 | 4 | 5 |
| 31. People who criticize the government are either ignorant or stupid. | 1 | 2 | 3 | 4 | 5 |
| 32. I wish that more affection were shown by members of my family. | 1 | 2 | 3 | 4 | 5 |
| 33. When a person is no longer interested in doing his best, he is done for. | 1 | 2 | 3 | 4 | 5 |
| 34. I get very angry when I miss a bus which passes only a few feet away from me. | 1 | 2 | 3 | 4 | 5 |
| 35. My place of employment and/or my neighbourhood provide adequate opportunity for me to meet and make friends. | 1 | 2 | 3 | 4 | 5 |
| 36. I can walk past a graveyard alone at night without feeling uneasy. | 1 | 2 | 3 | 4 | 5 |
| 37. I avoid inviting others to my home because it is not as nice as theirs. | 1 | 2 | 3 | 4 | 5 |
| 38. I prefer to have someone with me when I receive bad news. | 1 | 2 | 3 | 4 | 5 |

| | Strongly disagree | Disagree | Undecided | Agree | Strongly agree |
|---|---|---|---|---|---|
| 39. It is necessary to be friendly to new neighbours and co-workers. | 1 | 2 | 3 | 4 | 5 |
| 40. The good person is usually right. | 1 | 2 | 3 | 4 | 5 |
| 41. Sometimes I feel that nobody loves me. | 1 | 2 | 3 | 4 | 5 |
| 42. I worry about little things. | 1 | 2 | 3 | 4 | 5 |
| 43. Riches are a sure basis for happiness in the home. | 1 | 2 | 3 | 4 | 5 |
| 44. I can face a difficult task without fear. | 1 | 2 | 3 | 4 | 5 |
| 45. I usually try to avoid doing chores which I dislike doing. | 1 | 2 | 3 | 4 | 5 |
| 46. I like to bear responsibilities alone. | 1 | 2 | 3 | 4 | 5 |
| 47. Other person's problems frequently cause me great concern. | 1 | 2 | 3 | 4 | 5 |
| 48. It is sinful to doubt the Bible. | 1 | 2 | 3 | 4 | 5 |
| 49. It makes me very uncomfortable to be different. | 1 | 2 | 3 | 4 | 5 |
| 50. I get terribly upset and miserable when things are not the way I would like them to be. | 1 | 2 | 3 | 4 | 5 |
| 51. I find that my occupation and social life tends to make me unhappy. | 1 | 2 | 3 | 4 | 5 |
| 52. I am afraid in the dark. | 1 | 2 | 3 | 4 | 5 |
| 53. Many people that I know are so unkind or unfriendly that I avoid them. | 1 | 2 | 3 | 4 | 5 |
| 54. It is better to take risks and commit possible errors, than to seek unnecessary aid of others. | 1 | 2 | 3 | 4 | 5 |
| 55. I get disturbed when neighbours are very harsh with their little children. | 1 | 2 | 3 | 4 | 5 |
| 56. I find it very upsetting when important people are indifferent to me. | 1 | 2 | 3 | 4 | 5 |
| 57. I have sometimes has a nickname which upset me. | 1 | 2 | 3 | 4 | 5 |

| | Strongly disagree | Disagree | Undecided | Agree | Strongly agree |
|---|---|---|---|---|---|
| 58. I have sometimes crossed the street to avoid meeting some person. | 1 | 2 | 3 | 4 | 5 |
| 59. When a friend ignores me I become extremely upset. | 1 | 2 | 3 | 4 | 5 |
| 60. My feelings are easily hurt. | 1 | 2 | 3 | 4 | 5 |

| Never Rarely Sometimes Often Very Often | | Not At All Slightly Moderately Fairly Extremely |
|---|---|---|
| 0 1 2 3 4 | Not being accepted as a health professional by pharmaceutical sales representatives. | 0 1 2 3 4 |
| 0 1 2 3 4 | Not being accepted by the public as a health professional. | 0 1 2 3 4 |
| 0 1 2 3 4 | Not being accepted by the public as a businessperson. | 0 1 2 3 4 |
| 0 1 2 3 4 | Not being accepted as a health professional by other health professionals. | 0 1 2 3 4 |
| 0 1 2 3 4 | Having feelings that you are inadequately paid as a pharmacist. | 0 1 2 3 4 |
| 0 1 2 3 4 | Keeping up with new developments in the profession. | 0 1 2 3 4 |
| 0 1 2 3 4 | Being recognized as both a health professional and a businessperson. | 0 1 2 3 4 |
| 0 1 2 3 4 | Not having clearly specified job responsibilities. | 0 1 2 3 4 |
| 0 1 2 3 4 | Experiencing job policies and procedures which are not enforced consistently. | 0 1 2 3 4 |
| 0 1 2 3 4 | Experiencing job policies and procedures which are not explicit. | 0 1 2 3 4 |
| 0 1 2 3 4 | Working with externs/students. | 0 1 2 3 4 |
| 0 1 2 3 4 | Providing in-service education programs to nursing personnel. | 0 1 2 3 4 |
| 0 1 2 3 4 | Talking to civic groups about drug-related issues. | 0 1 2 3 4 |
| 0 1 2 3 4 | Contacting the physician when a prescribing error has been made. | 0 1 2 3 4 |
| 0 1 2 3 4 | Having non-pharmacists determine the way you must practice pharmacy. | 0 1 2 3 4 |
| 0 1 2 3 4 | Experiencing job situations which compromise your ethical standards of practice. | 0 1 2 3 4 |
| 0 1 2 3 4 | Facing the threat of robbery. | 0 1 2 3 4 |
| 0 1 2 3 4 | Having job duties which conflict with family responsibilities. | 0 1 2 3 4 |
| 0 1 2 3 4 | Not having enough time to practice pharmacy the way you think it should be practiced. | 0 1 2 3 4 |
| 0 1 2 3 4 | Not receiving enough feedback from your supervisors. | 0 1 2 3 4 |

| Never | Rarely | Sometimes | Often | Very Often | | Not At All | Slightly | Moderately | Fairly | Extremely |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | Relying on supportive personnel to assist in filling prescription orders. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Identifying and dealing with forged prescriptions. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Being interrupted by phone calls or people while performing other job duties. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Not being allowed to participate in making decisions about your job. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Supervising co-workers who are pharmacists. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Supervising co-workers who are not pharmacists. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Managing the entire pharmacy, not just the prescription department. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Being directly involved with patient care on hospital nursing units. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Not being staffed with an adequate number of personnel on the job. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Experiencing feelings of job insecurity. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Feeling that you do not have opportunities to advance on the job. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Not being able to use your abilities to the fullest extent on the job. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Not being challenged by your work. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Having working relationships with physicians. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Having working relationships with nurses. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Having working relationships with other pharmacists. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Having working relationships with non-pharmacist employees. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Having working relationships with superiors who are pharmacists. | 0 | 1 | 2 | 3 | 4 |
| 0 | 1 | 2 | 3 | 4 | Having working relationships with superiors who are not pharmacists. | 0 | 1 | 2 | 3 | 4 |

| Never Rarely Sometimes Often Very Often | | Not At All Slightly Moderately Fairly Extremely |
|---|---|---|
| 0 1 2 3 4 | Not receiving constructive feedback from your supervisors. | 0 1 2 3 4 |
| 0 1 2 3 4 | Performing nursing home drug regimen reviews. | 0 1 2 3 4 |
| 0 1 2 3 4 | Conducting patient discharge counseling. | 0 1 2 3 4 |
| 0 1 2 3 4 | Contacting physicians for authorization of refills. | 0 1 2 3 4 |

## Part Three

Section A

A number of statements which people have used to describe themselves in a work situation are given below. Read each of them and circle the number which indicates how you feel when you are at work.

There are no right or wrong answers.

Do not spend too much time on any one statement but give the answer which seems to describe your feelings at work.

| | Not at all Somewhat Moderately so Very much so |
|---|---|
| 1. I feel calm | 1 2 3 4 |
| 2. I feel secure. | 1 2 3 4 |
| 3. I am tense. | 1 2 3 4 |
| 4. I feel strained. | 1 2 3 4 |
| 5. I feel at ease. | 1 2 3 4 |
| 6. I feel upset. | 1 2 3 4 |
| 7. I am presently worried over possible misfortunes. | 1 2 3 4 |
| 8. I feel satisfied. | 1 2 3 4 |
| 9. I feel frightened. | 1 2 3 4 |
| 10. I feel comfortable. | 1 2 3 4 |
| 11. I feel self-confident. | 1 2 3 4 |
| 12. I feel nervous. | 1 2 3 4 |
| 13. I am jittery. | 1 2 3 4 |

| | Not at all | Somewhat | Moderately so | Very much so |
|---|---|---|---|---|
| 14. I feel indecisive. | 1 | 2 | 3 | 4 |
| 15. I am relaxed. | 1 | 2 | 3 | 4 |
| 16. I feel contented. | 1 | 2 | 3 | 4 |
| 17. I am worried. | 1 | 2 | 3 | 4 |
| 18. I feel confused. | 1 | 2 | 3 | 4 |
| 19. I feel steady. | 1 | 2 | 3 | 4 |
| 20. I feel pleasant. | 1 | 2 | 3 | 4 |

Section B

A number of statements which people have used to describe themselves are given below. Circle the number which best describes how you feel. There are no right or wrong answers.

Do not spend too much time on any one statement, but give the answer which seems to best describe how you generally feel.

| | Not at all | Somewhat | Moderately so | Very much so |
|---|---|---|---|---|
| 1. I feel pleasant. | 1 | 2 | 3 | 4 |
| 2. I feel nervous and restless. | 1 | 2 | 3 | 4 |
| 3. I feel satisfied with myself. | 1 | 2 | 3 | 4 |
| 4. I wish I could be as happy as others seem to be. | 1 | 2 | 3 | 4 |
| 5. I feel like a failure. | 1 | 2 | 3 | 4 |
| 6. I feel rested. | 1 | 2 | 3 | 4 |
| 7. I am calm, cool and collected. | 1 | 2 | 3 | 4 |
| 8. I feel that difficulties are piling up so that I cannot overcome them. | 1 | 2 | 3 | 4 |

| | Not at all | Somewhat | Moderately so | Very much so |
|---|---|---|---|---|
| 9. I worry too much over something that doesn't really matter. | 1 | 2 | 3 | 4 |
| 10. I am happy. | 1 | 2 | 3 | 4 |
| 11. I have disturbing thoughts. | 1 | 2 | 3 | 4 |
| 12. I lack self-confidence. | 1 | 2 | 3 | 4 |
| 13. I feel secure. | 1 | 2 | 3 | 4 |
| 14. I make decisions easily. | 1 | 2 | 3 | 4 |
| 15. I feel inadequate. | 1 | 2 | 3 | 4 |
| 16. I am content. | 1 | 2 | 3 | 4 |
| 17. Some unimportant thoughts run through my mind and bother me. | 1 | 2 | 3 | 4 |
| 18. I take disappointments so keenly that I can't put them out of my mind. | 1 | 2 | 3 | 4 |
| 19. I am a steady person | 1 | 2 | 3 | 4 |
| 20. I get in a state of tension or turmoil as I think over my recent concerns and interests. | 1 | 2 | 3 | 4 |

Section C

Read the following statements carefully. Then indicate how much you either agree or disagree by putting a circle around the number that represents your opinion.

Answer all the questions with only one answer. If you make an error make sure you erase the undesired answer completely. There are no right or wrong answers.

There is no time limit but do not spend too much time on any one question.

| | Strongly disagree | Disagree | Undecided | Agree | Strongly agree |
|---|---|---|---|---|---|
| 1. Jeers humiliate me even when I know I'm right | 1 | 2 | 3 | 4 | 5 |
| 2. I worry about situations where I am being tested. | 1 | 2 | 3 | 4 | 5 |

**Division of Continuing Pharmacy Education**
FACULTY OF PHARMACY AND PHARMACEUTICAL SCIENCES
The University of Alberta • EDMONTON, CANADA T6G 2N8 • TELEPHONE 432-2393

March 10, 1988

Dear Pharmacist:

Job related stress has received a great deal of attention in the last few years. Recent studies have shown that a significant number of pharmacists find their jobs stressful, and may therefore be at risk of experiencing burnout and/or leaving the profession.

We have therefore been encouraged by pharmacists to organize a C.E. program dealing with stress in the practice of pharmacy. The Division has asked Dr. Harvey Zingle, from the Department of Educational Psychology, University of Alberta, to organize a workshop for us. However, it is necessary to identify the factors that cause stress within our profession and within ourselves, in order to develop a stress-management program specifically geared to pharmacy.

Dr. Zingle and his research assistant, Lisa Najdziak, have compiled a questionnaire which is sent to all A.Ph.A. members. It will take you approximately 30 minutes to complete. All responses are CONFIDENTIAL ... your name is not required.

The researchers are interested in examining which aspects of the profession are stressful and the degree to which stress is experienced. It has been suggested in the literature that the amount of stress one experiences is related to one's belief systems; they are therefore also interested in exploring this relationship. The enclosed questionnaire is designed to assess those aspects of your job which may be stressful, the amount of stress you are currently experiencing, and to determine how this relates to your belief systems. Although some of the questions may seem irrelevant, they have been used in many other studies and are necessary to assess our stress level, our perception of stress and our reaction to it.

This project is funded by the Upjohn Company of Canada. Their continued support is greatly appreciated.

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Once results have been tabulated and analyzed, a report will be sent to all Alberta pharmacists. Dr. Zingle's workshop on this topic is planned for the afternoon of our C.E. Day at the Annual A.Ph.A. Convention, June 16, 1988 at the Lodge Kananaskis. Depending on the success and demand, we anticipate that several workshops on this theme will subsequently be offered in various locations throughout the province.

We urge you to complete the questionnaire and return it in the stamped envelope before March 28, 1988. Your participation is vital in order to realistically assess the degree of stress and to identify the factors that create stress within our profession; it will also permit the development of effective stress-management workshops and strategies.

Sincerely yours,

(Mrs.) Arlene Ponting
Co-ordinator
Continuing Pharmacy Education

Enclosures:

AP:ef